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Address.

ADDRESS OF THE PRESIDENT.

DELIVERED AT THE FIFTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT COLUMBUS, OHIO, JUNE 6-9, 1899.

BY JOSEPH M. MATHEWS, M.D., LL.D.
LOUISVILLE, KY.

In assuming the duties of the presiding officer of this ASSOCIATION, I must confess that it is with a feeling of great diffidence. For many years I sat at the feet of the masters in medicine, as they were wont to assemble at their annual meeting, and was content to listen only to their wise counsels, to emulate as far as I could their example, and to profit by the words of wisdom which fell from their lips. When I reflect upon the names of my predecessors who have occupied this chair, their great achievements in medicine, the high rank to which they attained and the good which they accomplished, it is no wonder that I assume the rôle with some trepidation. You will therefore permit me to offer you my very sincere thanks for the honor which you have conferred upon me.

In assuming the duties as your chairman I hope to be just to all, and if at any time my decisions should appear otherwise, please attribute it to my head rather than my heart. It pains me to look over this great body and recognize the fact that not only many of its most prominent members in the past are absent, but also that the majority of those who have served you as president have likewise gone to their eternal home. Let their departure remind us that we, too, must soon lay aside our armor and join the silent majority. This thought brings me to consider for a moment:

OUR NATIONAL BODY; ITS PURPOSES AND DESTINY.

I imagine that when the father of this ASSOCIATION, the Nestor of American medicine, called around him a few devoted friends, accomplished physicians and surgeons, and effected an organization to be known as the AMERICAN MEDICAL ASSOCIATION, the first thought which filled their minds was the unification of the profession which they loved so dearly. It was their desire, no doubt, to bring together each year the men who were laboring earnestly and honestly for the elevation of the profession, that they in conclave could impart to each other the advance that each succeeding year had brought forth in their chosen calling: and done in order that the sick and the afflicted could be profited thereby.

Sacrifices and great personal discomfort were endured by them to obtain the good; but what splendid results were accomplished by their efforts is evidenced in the assembling of the great body here to-day. I opine, too, that anything that partook of the nature of jealousy, unfairness or politics was deprecated by them, but to the contrary, they desired that peace and good-will should always obtain. What could be more beautiful than the fruition of this hope? How grand the thought that here in the mother society men of all grades, so far as education and accomplishments are concerned, be they great or small, poor or rich, the rank and file of the profession can meet on common ground and exchange views for the benefit of suffering humanity. Some must be teachers or instructors; others listeners; they each in their way contribute their mite. It may be that some member from a far-off and sparsely-settled country has heard some truth in the application of which a life may be saved, or in return he can give an experience which may prove of incalculable benefit to his more fortunate brother. Let me impress upon you, then, that no class legislation should be indulged in by this body. Let it not be said of us that we rule without reason, or that we are a set of politicians trying to secure benefit for the few against the many, or for the many against the few, for in nowise are we a legislative body. In lieu of all this, let us receive with open arms all who represent honesty, fair dealing, and entertain an honest desire to elevate the standard of the medical profession, and of this ASSOCIATION. Let no wrangling come into our midst, but rather let peace and harmony prevail, with love to one another, as becomes gentlemen.

SHALL WE HAVE A LOCAL HABITATION?

It is to be seriously questioned whether this ASSOCIATION, so numerically great as it is destined to be, or in truth is now, profits in any manner by its migration each year to distant parts of the Union. It can not be denied but that a mistake has been made in the past in going to cities too small to entertain it. It certainly adds no dignity to this distinguished body to be thus traveling about, not to speak of the inconvenience occasioned to the majority of its members by the so doing. Nor is it right or proper to impose upon a local profession the expense and trouble that it takes to entertain it. If the members will give the subject careful thought and consideration, I believe that they will come to the conclusion that the ASSOCIATION should have a local habitation. The natural question would then be, where could such habitation be found? In the selection of the same, many things would have to be considered. A city within easy reach, which offered the most attractive advantages. Of all, the City of Washington is the best suited. The capital of the nation. it has advantages that no other place can offer. With its great free libraries, it is the seat of learning; its magnificent Government buildings, its natural beauty, its select society, its two houses of Congress, the rendezvous of foreign representatives and diplomats, the home of the medical departments of the Government, army, navy and marine-hospital corps. Then, too, the idea is not far-fetched that the Government, liberal always, would at some time lend the ASSOCIATION a helping hand in the way of securing a suitable building in which to hold its meetings and to become the

owner thereof. Again, it would be in touch with the legislative department of the Government, and it can readily be seen of what value this would be in securing much-needed reforms in a medical way. The JOURNAL would here find the most suitable of all abodes; an atmosphere of refinement, education and wealth. Its editor would all the time be on the alert, and much profit would come to the JOURNAL from such surroundings and associations. I beg of you to give this matter your most serious consideration.

IMPORTANCE OF ATTENDING THE LAST DAY'S SESSION.

I desire to call your attention to the importance of attending the general session on the last day of the meeting. Business of the very greatest importance always comes up for consideration on that day, and, strange to say, often there is scarcely a quorum present. At the meeting at Denver last year less than fifty members were in attendance on the last day of the meeting. If, therefore, resolutions are rushed through on that day which displease you, it is your own fault. Besides, if the business transacted on that day comes up for consideration at the following annual meeting, it takes up time which it has no right to. Please, therefore, see to it that nothing interferes with your attendance on that day.

CLINICS, DINNERS, ETC.

It has been a noticeable fact for a long time that the clinics which are held each year during the meeting of the ASSOCIATION by the local profession of the city in which it happens to meet, very materially decrease the attendance at both the general sessions and the various Sections. This should not be, and it is the duty of the proper officials of this ASSOCIATION to deprecate the holding of such clinics. Time and again many of the very best men of the ASSOCIATION have been kept away a half day, and often a whole day, from the meeting, when their counsel and presence were much needed at the different Sections, or at the meeting in general session. Need I remind you that absence of the same kind and duration is often observed at dinners to which members are kindly invited. This can be easily obviated.

THE JOURNAL.

It is my painful duty to announce to you the death of Dr. John B. Hamilton, editor of the JOURNAL of the ASSOCIATION. This ASSOCIATION never had a truer friend than he. Possessed of a clear-cut individuality, he was always outspoken, and what he did he at least believed to be for the best. We will miss his wise counsel in our deliberations. He made a most excellent editor of the JOURNAL, and by his efforts it was brought up to the high standard which it occupies to-day. The Board of Trustees of the JOURNAL, after careful consideration and deliberation, has selected Dr. Geo. H. Simmons to succeed Dr. Hamilton as editor. You are to be congratulated upon this wise selection. Dr. Simmons is not an experiment, for he has won his laurels in medical journalism, and already stands among his editorial friends as the peer of any. Having come up from the ranks in journalism, he is acquainted with every detail, and that he will make a good editor goes without saying.

THE MANAGEMENT OF THE JOURNAL.

I trust that it will not be considered out of place if I make a suggestion or two in regard to the management of the JOURNAL. It has been frequently urged that much appears in it that should be expurgated; in other words, that a censorship should be established and many articles withheld from publication. I desire to disagree from this sentiment entirely and unequivocally. The JOURNAL is simply the mouthpiece of the ASSOCIATION, and if one single paper read before this body is to be refused publication, then you have violated your pledge and obligation. Any member has the inalienable right to disagree with the sentiment of any paper, and the editor is in nowise responsible for said sentiment. If a paper is good enough to be read before any Section in this ASSOCIATION, it is good enough to be published in the JOURNAL. If any action is taken, it should be by the chairman of the Section before which the paper is to be read, saying to the reader that his paper does not come up to the standard. But who will assume this responsibility? and who is to judge the judges? May it not be that a paper, although couched in bad English, might contain matter of real merit? Many articles, too, with high-sounding titles and verbiage beyond the comprehension of man may contain but little that is of worth, although written in perfect English, with deductions that would puzzle a philosopher, and which contain illustrations that would do credit to *Puck*. By all means let the editor improve the JOURNAL in any way that he deems proper, but let every paper read before this ASSOCIATION or its Sections be published in the JOURNAL. Let the reader select the wheat from the chaff, the good from the bad.

In connection with the business interests of the JOURNAL, I beg to make the following suggestion: Let a suitable man be selected, preferably a doctor, to travel in its interest, thereby increasing the membership of the ASSOCIATION—this agent, secretary, assistant secretary, or whatever you may choose to call him, to solicit subscriptions for the JOURNAL and encourage membership. He should visit the meeting of each State society, district and county society besides calling on individual members of the profession. Of course, only those who are endorsed by accepted or recognized organizations can become members of this ASSOCIATION. There are many hundreds of worthy physicians in the United States who would readily join the mother society if properly approached. Many, very many of them are ignorant of the manner of becoming members. It may be urged that the salary necessary to secure such an agent would be too large to justify the employment of such. In refutation I would urge that by such individual solicitation many more would be added to the membership than would be necessary to pay said salary, and they would become permanent members. It can be said, especially to young men, that the mere wearing of the button of the ASSOCIATION adds dignity and confidence. Then, too, it can truthfully be asserted that the JOURNAL alone is worth more than the sum paid for membership. By this means I am sure that the treasury would be so increased as to enable the JOURNAL to be the peer of any published. Besides, our ranks would be so increased as to make this ASSOCIATION not only the largest but the most important in all the world.

THE SECRETARYSHIP.

For several years there has been a heated debate, if not wrangle, at each annual meeting, in general session, over the secretaryship. This is both unseemly and undignified, and is to be much deplored. It

seems to me that there is an easy solution to this matter. Let the editor of our JOURNAL be the secretary of the ASSOCIATION. The board of trustees has wisely insisted that he devote his whole time to the JOURNAL. It does, therefore, appear that the secretaryship should be one of his duties. By so acting he is brought into a closer relation with the business management of the ASSOCIATION and with the active membership of the same. He would himself be responsible for a correct report of all proceedings, and be enabled to keep them without fault. The question whether or not any addition should be made to his salary for this additional work can be determined by the board of trustees. Our present secretary has served us long and well, and for his services in the past the ASSOCIATION should, and no doubt does, feel deeply obligated to him. I am sure that he would be the first to acquiesce in any move that would enhance the business interests or the prosperity of the ASSOCIATION. I therefore very respectfully offer the suggestion as above stated.

SOCIETIES WHICH SHOULD BE RECOGNIZED.

In the last few months many good medical societies which have adopted the "Code of Ethics" have communicated with me through their secretaries, asking how they could get recognition by this body. I have found, in many instances, that the State society had failed to recommend them, but for no particular reason. Anyway, they are debarred from recognition by this ASSOCIATION. In several instances I found that said societies had a greater number in attendance at their meetings than did the State society. I trust something will be done in regard to this matter, in order that these good societies can obtain recognition from this ASSOCIATION.

The appointment by your nominating committee of three such distinguished gentlemen to read the several addresses before this ASSOCIATION in general session assembled, relieves me of any duty in that line. I shall therefore content myself with employing the balance of my time in asking your consideration of a few things which are not only a menace to the public health, but also to the safety of society. Having served as a health officer for many years, my mind naturally turns into this channel, especially so when I see an opportunity to enlist the interest and co-operation of this large and influential body of physicians.

TUBERCULOSIS.

It behooves this national body of American physicians to take some action, or at least to approve the movement to stamp out, as far as scientific effort can do so, that dread disease that kills one-seventh of the world's population—tuberculosis. A few days ago, May 24-27, there was held a tuberculosis congress in Berlin, international in character. The Liverpool Medical Institution, one of the most important medical societies in England, has recently appointed a committee of its members "to consider what further steps can be taken for the prevention of tuberculosis, and for the treatment of the disease in the human subject." This committee proposes to consider: 1, the nature of pulmonary tuberculosis, its communicability and preventability; 2, the provision of sanatoria; 3, the more effectual methods of controlling spread of infection, and 4, the desirability of adopting some form of notification. The eradication of bovine tuberculosis received a powerful stimulus throughout the empire when recently Her Majesty the Queen gave orders to have killed such of her herd of Jerseys as were shown by the tuberculin test to be infected.

At the recent meeting of the French Association for the Advancement of Science, the section of hygiene, at the suggestion of Professor Nicholas, passed a resolution pointing out that the convection of tuberculosis by inhalation is only one of the modes of infection, and that a larger part of the diffusion of the disease is played by contagion through the alimentary canal, as proved experimentally and clinically, urging the necessity of taking adequate measures to insure the sterilization and harmlessness of articles of food. All Europe is wide awake to the importance of this subject.

From carefully prepared statistics it is found that of the deaths from all causes between the ages of 15 and 60 years, one-third of the number are victims of tuberculosis, and that it kills four and a half times as many people as do smallpox, scarlet fever, typhoid fever, and diphtheria combined. It is estimated that at any given time in Germany alone 1,300,000 persons are affected with tuberculosis, and Osler says that 1,200,000 in America have the disease at all times. One in every fifty persons has the disease. Over 13,000 die of tuberculosis in the State of New York every year. In every other American city the proportion of deaths is equally as great. So important has this subject become that at a recent convention held in England to consider the question, "How to Prevent the Spread of Consumption," the Crown was represented by His Royal Highness, the Prince of Wales, who presided over the meeting. Great encouragement was given the move by royalty and all others. The medical profession all over the world is deeply interested in the subject, the aid by governments solicited, and every effort is being made to suppress this formidable disease. Since the germ which causes it is known, and its habitat, the condition under which it thrives, and that the disease is contagious, it does appear but rational to assume that it not only can be prevented by precautionary measures, but that it can be cured by proper environment and treatment. It is equally true that, even in the best of homes, the treatment usually accorded the patient is *nil* in effect and accomplishes nothing. Something more than this must be done if we expect to materially decrease the death-rate. What is that something? Detweiler believes that over 24 per cent. of cases of tuberculosis are curable, Meisen, 27 per cent., Braymer, 21.5 per cent., and this under ordinary climatic and hygienic treatment. A much higher percentage of recoveries could be recorded if a real systematic and scientific treatment could be afforded these patients. Such a course can be instituted only in well-ordered and equipped hospitals designed especially for such inmates. In regard to the extent of the disease, I can do no better than to use the words of Professor Hirsch. He says, "It is emphatically a disease of all times, all countries, and all races No climate, no latitude, no occupation, no combination of favoring circumstances forms an infallible safeguard against the onset of tuberculosis, however such conditions may mitigate its ravages or retard its progress. Like typhoid fever, phthisis dogs the steps of man wherever he may be found, and claims its victims among every age, class, and race." In answer to the question, What is to be done to prevent its progress? I would suggest a

remedy in using the words of a resolution adopted at the International Congress of Hygiene in Brussels, in 1897: "The hospitalization of tuberculosis is urgent and will not long be withheld." In several large cities in the United States an earnest effort has already been made to carry this thought into practical utilization, especially so in Chicago and New York. It can readily be seen, however, that but a comparative few out of this great number of afflicted can be accommodated in this manner. A country or State that is ever on the alert to prevent the landing of a foreign foe, or a hostile army, surely should ever be ready to aid in the suppression of a foe to the human race ten times more destructive to human life than the invasion of the country by an army of great size armed with the most improved rifles. Let us, then, in the name of humanity, invoke aid from the government of this very humane people, in order to help put down and thoroughly conquer this foe.

During the last session of the New York legislature a report of the Senate committee appointed to investigate the advisability of establishing a State hospital for the cure of consumption was made. Many reasons for the same were presented in the report. Among other things, the report read: "Tuberculosis is one of the most fatal diseases that the human race has to combat at the present day; its yearly victims inflict a serious and unnecessary drain upon the resources of the State. Unnecessary because it is now demonstrated beyond question that by the adoption of proper preventive measures a large proportion of those who suffer from this disease may be saved. This is proven not only by the revelations of science, but by the results which have been obtained in the practical application of the means to prevent the spread of the disease. A large proportion of the cases brought under treatment have been cured, and so many have so improved as to be restored to the producing class. It is also shown that the efforts of the boards of health of this and other States, as well as in other countries, have so far succeeded in reducing the percentage of deaths from tuberculosis by the measures adopted that there is good ground for assuming that with wise laws properly enforced this disease may be almost wholly obliterated." Is it too much, then, to suggest that this ASSOCIATION, representing the most advanced thought of the medical profession of America, take action in this important matter? I would most respectfully urge you to appoint a committee to prepare a careful report on this subject and present it to the next Congress sitting, beseeching that this Government erect, prepare or donate hospitals or reservations in and at which the poor or others shall receive treatment for the cure of consumption; also that the advisability of the respective States erecting similar institutions be impressed upon the various State boards of health. The blind, the deaf, the insane, the feeble-minded and other classes are so provided for; why not these? They are not able to care for themselves and they are a menace to the public health. It must be confessed that in so far as the prevention of the disease is concerned, that must come from the education of the people to the facts. The best way to accomplish this I leave to you.

THE ANTIVACCINATIONISTS.

It may appear superfluous to ask that you consider, in the proper way a rebuke to a certain class that is doing much to endanger the lives of our citizens, and whose meddling ways are giving the health boards of the various States much annoyance. I allude to the antivaccinationists, encouraged as they are by an antivaccination society. It seems strange and beyond belief that citizens of respectability and supposed intelligence should band themselves together to prevent a means of saving human life. But "'tis true, and pity 'tis, 'tis true." If these misguided people would only inform themselves of facts, patent to every reader of history, they might at least stop long enough in their mad career to think.

The true condition is so well described by Dr. Seys in a recent paper that I beg to quote from him: "Well has smallpox been termed the most terrible of all the ministers of death.' It dates back to the early history of our race, but from whence it came no man can say. Then all expected to have it and but few escaped. No respecter of persons, it was found in the palace and in the hovel, in the fair green fields and in the foul dungeon. All ages yielded to its noisome touch, and no season of the year was free from its deadly breath. One-third of the children born to the daughters of men died before they were a year old because of this pestilence, and one-half before the age of 5. In epidemic years it is estimated to have caused 50 per cent. of all deaths in Europe, and in non-epidemic years not less than 10 per cent. Two-thirds of the pauper blind in Europe of that day looked no more on the faces of their loved ones or the blue sky, nor saw the light of day, because of its blighting visitation. In Mexico it is said in a few years to have caused the death of three and a half millions of people. Iceland and Greenland were almost depopulated by it, and it has well-nigh rendered extinct some of our Indian tribes. It was the all-important factor in keeping down the population of Europe. Nor would the task be a difficult one to-day, should we desire to do so, to bring back the horrors of but a few years ago."

We may rest in peace and disregard the efforts of these half-mad people, but we must not close our eyes to the fact that, by their loud cry, aided by political influence, given often for self-aggrandizement, they are endangering the lives in every community. So far has this thing gone, that the vaccination law in England has but recently been amended so that only those who may desire shall be vaccinated. This is a menace to the public health and smacks of the dark ages. I again respectfully ask that you give to the medical profession in America an endorsement of their views in a resolution sustaining *compulsory* vaccination. The safety of the people from this most direful malady demands it.

A CRUSADE AGAINST SYPHILIS.

An international medical conference will be held at Brussels, Belgium, in the month of September next, known as the International Conference for the Prevention of Syphilis. A statement of the fact has been sent the Honorable Secretary of State of the United States, through the Belgium minister at Washington, with request that he appoint a delegation to attend this important conference. The honorable secretary in turn requested me, as your presiding officer, to name said delegation. This I have already done, as the call was for immediate action. In the preamble which accompanies this notice the following language was used: "The increasing propagation of syphilis and venereal diseases has become

a serious danger to society, and it is important while there is still time to take efficient measures to stop the progress of this scourge. The spread of the evil is an incontestible fact; on this point all physicians who are in a position to know or observe its progress are agreed. The number of victims increases daily, and a serious consideration is that this malady is penetrating into strata of society where it was formerly rarely seen. Scarcely any attempt hitherto has been made to check this social evil, or rather while some attempts have been made, they were without concerted action, without preconceived plans, and without an international understanding to success."

What can be said of Belgium in this regard can be said of the United States. Perhaps the ratio of cases is not so large, but this matters little. It is estimated that there are in this country between six and seven million people who are afflicted in one way or another with syphilis. A distinguished French authority says that one man in every four has the disease in France. When we consider that by this the very foundation of society is shaken, our families imperiled, the constitutions of our youths undermined, our women wrecked, it is high time, as this official says, that we turn our attention to the subject. The warning should be in words that the most illiterate man or woman could understand, and it should emanate from sources and places that would reach the greatest number. Our false modesty in the past has been too pronounced, and has prevented us from giving to the common people valuable information; so we are in a measure, as a profession, much to blame for the great spread of this blighting curse.

The time has arrived when we as physicians, singly or when in convention assembled, should throw aside all restraint when dealing with this vital question. Fathers, mothers, sisters, brothers and all others should be informed, and this information should be in the plainest language. The minister and the priest should aid the doctor in this praiseworthy undertaking. The doctrine should be inculcated into the youth of both sexes, that freedom from this awful condition should exist before the marriage relation is thought of. Upon this declaration rests the hope of the State, as well as of families, for neither good soldiers, good citizens nor good husbands, with tainted blood can be had. Please permit me to suggest that a committee be appointed from this body, to report at the next annual meeting, on the subject: "What is the Best Means of Preventing the Spread of Syphilis?"

A PLEA FOR HARMONY.

In conclusion, let me beg of you that this meeting be one of perfect harmony and peace. Let nothing of an acrimonious nature be indulged in, but rather let your deliberations be characterized by patience, love for each other, and a desire to ennoble the profession to which you belong. For are we not brothers indeed, fighting for a common cause—the obliteration of the common enemy, disease? May your future life, each and all of you, be one of peace and perfect happiness; and may God grant to all a long life filled with good deeds. If fate should decree that any one of you should pass away before we meet again, may you find eternal rest in "God's next country."

BY THE will of the late T. W. Robbins, Philadelphia, $1000 has been devised to the Pennsylvania Hospital and $400 to the Episcopal Hospital.

Orations.

A CENTURY OF MEDICINE IN AMERICA.

THE ORATION IN MEDICINE AT THE FIFTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT COLUMBUS, OHIO, JUNE 6-9, 1899.

BY J. C. WILSON, M.D.
PHILADELPHIA.

The duty of the hour is always the logical outcome of other duties previously done. This distinguished assembly, in whose presence, by your courtesy, I have the honor to stand, is but one of a long series of meetings of those who hold the idea higher than the act, the profession nobler than the art. The fables of the birth of Aphrodite and of Pallas Athene are deeper allegories than the schoolboy suspects. To the poet the combing of a wave and lo, upon the foam, the embodiment of all that is beautiful in nature; a flashing bolt and at Jove's brow the incarnation of all that is pure and wise in spirit. But to the student there is no such instantaneous achievement. Beauty and wisdom do not take the world by storm. The forces of nature are at work through all time, till Venus comes and eons pass away in dubious thought before Minerva stands forth. Progress is from point to point, by slow degrees, and often with painful retracing of disappointed steps. Life is a relay race; those who are weary dropping out to give place to newcomers. When some goal is won, the last runners are too apt to think the victory theirs. No man's success is all his own. We are what those who have gone before have made us, and the splendor of our time is the long result of theirs.

The most wonderful century of the world's history draws to a close. Not in all time has there been such a period. The diffusion of knowledge, man's power over nature and organized human energy have yielded results that mark the latest as the most brilliant epoch of our civilization. But the advance has been by no means an even one. In those things that lend themselves most readily to the inductive method of investigation, to observation and experiment, the progress has been greatest. Hence, an era of brilliant material success. In things more elusive, the doubts, uncertainties and perplexities of the past remain to harass us. Yet the great growth in knowledge of material things begets in the human heart a longing for a deeper knowledge in loftier matters. The inductive method is of ever wider application. May we not hope that as this century has been magnificent in physical advancement, the century that is to come may be glorious in intellectual and moral development?

Has medicine, that branch of human endeavor in which we are especially interested, kept progress with the times? Has the century done for it what it has done for other things? This is not hard to answer. For medicine the changes of this year-hundred have been the awakening from the sleep of ages. The work of the early anatomists, the great discovery of Harvey, Auenbrugger's laborious revelation, Jenner's patient investigation, were stirrings in the slumber.

The dawn of the century was auspicious. Vaccination was widely practiced and its value everywhere recognized. Corvisart rescued the inventum novum from oblivion. Lænnec invented the stethoscope and discovered auscultation. The methods were practically complete, but it took forty years and the

influence of Skoda to make physical diagnosis a familiar art The era of speculative medicine was fast drawing to a close. Feds and isms arose, as they will arise from time to time among the half-educated and the degenerate, but their influence has been, with few exceptions, short-lived, and its reaction on scientific medicine, favorable. The microscope ceased to be a scientific toy and became an instrument of precision. New sciences ranged themselves as the handmaids of medicine. In 1858 Virchow issued the "Cellular Pathology as based upon Physiological and Pathological Histology." It was but a step onward to experimental physiology, physiologic chemistry and experimental therapeutics. In truth, the "close and severe" methods had come, and had come to stay. It was evident that these methods, and these only, could be successfully used in the search for truth. The fairy tales of science had become the every-day handbook of the doctor. We had fully entered upon the era of experimental medicine. Ether and chloroform anesthesia, for operative purposes, robbed surgery of half its terrors, and rendered possible operations previously impracticable. The germ theory of disease came into prominence as a working hypothesis. Lister made the astounding discovery of surgical cleanliness, and early in the last quarter of the century the new surgery replaced the old. Marvelous change! Anesthesia had robbed surgery of half its terrors; an almost perfect antiseptic technic has taken away the rest. In fact, there are those, chiefly of the gentler sex, for whom surgery appears to have no terrors whatever.

The obvious impossibility of the individual mastery of the medical sciences and of the art of medicine, gave rise to the specialties. In truth, the laboratories were the beginning of specialism, which became an imperative need, partly on account of the necessity of more limited fields of investigation, partly because of the requirements of a precise and extended technic skill. If the specialties have been multiplied somewhat beyond the needs of the profession or the people, and if isolation of thought and shortcomings of practice have come of their too narrow cultivation, these are errors which tend to correct themselves, and despite its faults, specialism is a power in the medicine of our times, both in promoting knowledge and in direct healing, the importance of which can not be overestimated.

Clinic medicine, great as had been its advancement, began to lag in the progress. It fell behind surgery and for a time scarcely kept abreast of the minor specialties. The explanation was not far to seek. It was to be found in the complexity of the problems and in the greater number of unknown values, especially in causation. For a time this great branch of medicine waited for that new science which was to place it foremost among the specialties, to render possible the study of origins, to reveal the nature of infection, to set preventive medicine upon a sure foundation, to point the way to rational systems of therapeutics. The germ theory of disease ceased to be a working hypothesis and became a demonstration. The science of bacteriology came into existence. Youngest of the biologic sciences, it has accomplished more for medicine in three decades than all the rest had been able to accomplish in three centuries. Bacteriology has done away with speculation in medicine forever and has for all time established experimental research as the final court of appeal.

In counting up the gains in medicine during the century I must not overlook the progress in therapeutics. It is a common criticism of modern medicine that, with all the advance in pathology and diagnosis and above all in knowledge of the causation of diseases, we have made but insignificant gains in the art of healing. It is asserted that we are doubly losers since we have also cultivated a distrust for many of the remedies which our forefathers learned to rely on as the result of their empiric employment; that we have discarded many things that were good and found few to take their place. The criticism is of the most superficial kind. It is true that we have thrown away a host of useless drugs. The pharmacopeia of the future, so far as concerns mere drugs, will be but a slender volume. But we have kept those that are useful and acquired the art of employing them with precision and effect. We have learned to turn over to the surgeon, in the confident hope of speedy cure, many cases of disease until recently left to slowly perish under the unreasoning administration of drugs. The list of such diseases is growing from day to day. Who will say that the brilliant successes of modern surgery do not mark an advance in therapeutics? But wholly within the field of internal medicine the progress is far from insignificant. I for one do not hesitate to say that the abandonment of useless drugs is a most important step in that progress. But there are other gains of a most positive kind. The list is a long one and I only remind you of the analgesic group, the greater number of them synthetic products of the most advanced chemistry, of the nitrites, the bromids, of arsenic in pernicious anemia, the salicylates and of the serum therapy in diphtheria and of organotherapy in myxedema. Nor do we forget the systematic use of baths, gymnastics and massage, nor of climate—long-forgotten measures of treatment that modern scientific medicine gladly accepts from antiquity. But by far the most important gains lie in the direction of preventive medicine and prophylaxis. In the beginnings of disease— no, before the beginnings—the medicine of our day plays its most important therapeutic part. Disinfection means something; preventive inoculations whether against cholera in swine or against diphtheria in man, are scientific measures; quarantine no longer means a senseless forty days' detention but very often the salvation of a people.

But it is not what modern medicine has done in therapeutics that so much exalts it in our eyes as what it is in the sure way of doing in the future. The lines are laid straight for it. The problems are set before it. They are difficult and abound in unknown values. But, one after another, many of those disturbing quantities will receive an approximate valuation, and in the solution of problems now being worked out lie therapeutic possibilities of the highest import. The aim of modern medicine and the object of modern therapeutics is not so much to cure disease as to prevent it. The human mind is now chiefly concerned in the study of origins. In every department of research, whether the natural sciences, criticism, history, even theology, the same method of inquiry is pursued. In the words of Allbutt, the analytic method "is leading to a revolution which as yet we have not fully understood. This revolutionary conception is that death is not to be driven away by the apothecary, nor by any cunning compilation of drugs, but is to be prevented by the subtle strategy which consists in knowing all the moves of the game." And he predicts that "the medicine of the future will consist in setting

our wits to nature, in recognizing that when evils have befallen us there is no counsel, and that in the simple beginnings of things are the time and place to detect where stealthy nature, atom by atom, builds and unbuilds, feeds us or poisons us." Modern medicine is no longer content with trying to make some salvage out of the wreckage of disease, but is earnestly seeking for measures by which the storm can be avoided, the channels deepened and the rocks upon which high hopes are wrecked beaconed.

The century is the most wonderful in history. To my thinking, nothing in it is more wonderful than the advance in medicine; an advance which not only has covered the widest achievement, but has also brought us to the borders of the most abundant promise; an advance which is greater than its achievement and its promise because it consists in a revolution in our conceptions of the purposes of our art and was only rendered possible by the final exchange of the empiric method for the scientific. All that is best in the older medicine is to be found in the new, but the new is something essentially different. The old was an art based on empiricism, relying largely on so-called specifics and not altogether scornful of charms and magic. The new is an art based on a group of correlated sciences and deriving its power from the forces of nature. But the new is the outcome of the old; for the empiric method is the gateway to science and the accumulation of facts necessarily precedes generalizations in regard to them.

It is of interest to note the position of the United States in regard to modern medicine. It is no long time since our people were pushing westward over the wilderness, and a famous poet and story writer has accused us of being some centuries behind Europe in learning and manners. Railroads and the telegraph are great civilizers and the postal union is a wonderful teacher. There is no wilderness now except that beyond the seas, and "a few centuries" is a figure of speech. In medicine the world's knowledge is ours. The latest work of investigators in every field of research and in every country is quickly before us and we give something in return. Laveran discovered for us the malarial parasite, and Marchiafava, Golgi and others of the Italian school elaborated his observations; but an American, the late Prof. J. K. Mitchell, had anticipated the discovery, being "the first to approach in a scientific spirit the nature of infective disease and particularly in malarial fever"; and Laveran's observations were early confirmed on this side the Atlantic by Councilman, Osler, Thayer and others. Roux and Behring gave to the world the treatment of diphtheria by antitoxin serum, but the uncertainties concerning its efficacy were settled by Welch's analysis of the statistics and the two collective investigations of the American Pediatric Society. Ernest Brand devised the method of treating enteric fever by systematic cold bathing and showed that by it the mortality is cut in half, but it remained for American practitioners to demonstrate that the plan is not only feasible in hospitals but also in private practice. Macewen and Horseley showed that cerebral tumors could not only be definitely localized, but also that they could be successfully removed, but cranial surgery was carried to its full development and a perfect technic laid down by Keen. Here and there we have given more than we have received. We recall the contributions to neurology and especially the successful treatment of neurasthenia and hysteria by Mitchell, the second in the line of an illustrious medical family, and speak of intubation in grateful memory of the gentle O'Dwyer, and in surgery we are reminded that the New World has given something to the Old by the work of Senn, Murphy, Richardson, McBurney, my colleague, Deaver; and by that in earlier times of the clear-minded Grosses, father and son, the brothers Atlee and the heroic McDowell. The instances of accord, response, co-endeavor between the workers in medicine on the opposite shores of the Atlantic could be indefinitely multiplied.

In the field of literature the conditions are the same. On the one hand are the great weeklies of Berlin and Munich, and the *Lancet* and the *British Med. Jour.*; on the other the journals of Boston and New York, and the *Phila. Med. Jour.*, and the JOURNAL. It is impossible to speak here of individual monographs and treatises. But against such storehouses of medical lore as Ziemssen's "Encyclopedia" and Nothnagel in Germany and Allbutt's "System" in England, may we not set Pepper's "System" and that of Loomis, and the "Twentieth Century Practice?" It is an exchange of courtesies, of products. It is a well-balanced reciprocity.

If America is a little behind in original research, she is very alert in the application of that which is serviceable. If her investigators are less laborious and less numerous, her practitioners excel in adaptability, tact and skill. Meetings of national societies such as this, and the national and international congresses are a strong force in the process of unification. One of the finest things in the medicine of our day is its solidarity. In the institutions where medicine is taught and in the organization of the instruction we are making hopeful advancement. Much remains to be done, but the defects are chiefly in the direction of want of uniformity of requirement and of full co-operation among the several States, and are in a fair way of correction. An open-handed philanthropy has scattered among the great centers of population from the Atlantic seaboard to the Pacific slope commodious, well-appointed, fully-equipped hospitals, not at all inferior to the great hospitals of the Old World. Their foundations are less ancient, as must be in a young country, but their spirit is more plastic. Traditions are fine, but they sometimes fetter thought. To the noble-hearted non-medical managers of these institutions it is clearer than ever before that while the care of the sick poor is the primary object, it is by no means the whole object of a modern hospital. The instruction of the student, the training of the doctor, clinic and pathologic research, the accumulation of facts for immediate or future use in scientific medicine are secondary functions of essential importance. So it has come to pass that to the non-medical mind, as it has long been to the medical, the necessity of the set of laboratories, pathologic, bacteriologic, clinic, is paramount.

The correlative fact that the number of the staff must be much greater in proportion to the number of the patients than formerly has also become apparent, so that by a process of evolution hospitals are taking a much larger part in the education of the doctor than ever before, even those in which a very conservative management is hostile to clinic instruction.

It is clear then not only that medicine has kept pace with the progress of the times, nay more, that it has made advances even more wonderful than many other departments of thought, but also that in Amer-

ica the position of the profession compares favorably with that of any other country. Medicine with us is to-day one with the medicine of the world. Yet it is little more than one hundred years since the country was without a medical profession, in the sense in which the term is now used and was then used in the old world.

This is not the time or place to rehearse the history of medicine in the Colonies. The subject is set forth in great detail in the writings of Beck, Clark, Bigelow, Ruschenberger, N. S. Davis, and Billings. In 1760 the General Assembly of New York ordained that no person should practice as a physician or surgeon in the City of New York before he had been examined in "physick" and surgery under certain specified conditions, and prescribed a penalty of five pounds for violations of this law. A similar enactment was passed in the colony of New Jersey in 1772. Those were the only attempts to regulate the qualifications and practice of physicians by any of the Colonial governments previous to the time of the Revolutionary War. The first institution for the teaching of medicine, the Medical School of the College of Philadelphia, begun in 1765, continued its usual courses of instruction until June 1, 1777, when all the departments of the college were closed in consequence of the occupation of the city by the British army. In 1768 an effort was made to establish a medical school in connection with King's College in New York, which had been in operation for several years. The success which attended this effort was moderate, and it is stated that in 1774 "about twenty-five persons attended the anatomic lectures, some of whom were students from the West Indies." During the War of the Revolution there was little time or opportunity for the cultivation of any art or profession save that of arms. Many of those who had been most active in the medical life of the Colonies shared the toils and privations of the army as surgeons; others, as Warren and Mercer, assumed the responsibilities of active military careers. The military occupation of New York and Philadelphia necessitated the suspension of the medical schools for a period of many months. The feeble beginnings of professional organization in the colonies were arrested. When, at the close of hostilities, they were resumed it was with an earnestness that argued well for the future, but upon a scale commensurate with the limited resources of the exhausted colonists and the sparse population of a new country.

The medical school in Philadelphia was reopened in 1778, and became, after some vicissitudes, the medical department of the University of Pennsylvania. Among those comprising the faculty we find the names of Shippen, Wistar, Kuhn, Rush and Barton. An attempt to revive the medical department of King's College in New York came to an unhappy issue by reason of a popular outbreak caused by the suspicion that some bodies had been stolen from the graveyard for dissection. It was not until 1792 that this medical school was reorganized with a faculty consisting, among others, of Post, Rogers and Bard. In 1782 some courses of lectures on the different branches of medicine were given in connection with Cambridge University, and in 1788 a medical faculty was established, at the head of which was Dr. John Warren, with Waterhouse and Dexter as associates. At the time of which I speak the classes were small and the number of those who received the degree of doctor in medicine few. The requirements for admission were low and those for the degree not difficult. But in the absence of legislative requirements in order to practice, save in the City of New York, and because the degree of doctor in medicine carried with it neither honor nor special privileges, comparatively few availed themselves of the opportunity to obtain it. Many of the more prominent men in the profession had received degrees in foreign universities, but among the ordinary physicians were many who had entered upon practice as apprentices or as bachelors of physic, or had picked up some knowledge of medicine and surgery in military hospitals or in service upon the field. There was a limited medical literature, of which Davis has given a list of titles, together with the statement that many of the productions "are characterized by a variety of learning, an accuracy of observation and an originality of thought that would do credit to any age or country." But these were mostly of the nature of essays and dissertations, and the books in general use were European. The latter consisted of the writings of Sydenham, Boerhaave, Van Sweiten, Mead and Huxham; Haller's "Physiology"; in anatomy, Chiselden, Cowper and Monro; Sharp's "Surgery"; Smellie on "Midwifery" and Lewis' "Materia Medica." The instruments and many of the drugs were imported. The best men of the time were trained abroad. On their return they brought with them learning and books, for which there was nothing to give in exchange save here and there a tract on yellow fever or the indigenous flora. The buildings of the New York Hospital had been destroyed by fire before the war; the Pennsylvania Hospital was practically the only institution of the kind. Men practiced medicine and did their best, but an organized profession can not be said to have existed. Compared with the older countries medicine was in a condition of chaos from which it was struggling to emerge. Certainly it was far enough behind them.

It must be admitted that the rapid strides with which the medicine of the younger country has overtaken and is now keeping pace with the medicine of the world were largely due to the facilities of intercommunication that constitute one of the peculiarities of modern life. Knowledge travels far and fast. It has the wings of the light. It must be also conceded that such progress has been aided and accentuated in a remarkable manner by the master spirits who, from time to time appearing upon the scene, seem to be charged with an especial mission, and whose presence marks eras in the course of human events. Easily and by far the greatest of these, *primus inter pares*, is Rush. Others among his contemporaries I have already referred to. Nor do I intend to enumerate a complete list. Permit me to name one here and there, sometimes a group, as fine examples of medical men who, to say the least, are not commonplace. It is easy for one who has read our medical history to recall John Morgan, Redman, Hosack; Drake, who wrote the "Diseases of the Mississippi Valley"; that coterie of Louis' pupils, including Shattuck, Oliver Wendell Holmes and Gerhard, who brought back from France physical diagnosis, the distinctions among the fevers and reasonable methods of clinic work; Jackson and Morton and the controversies concerning ether; the group of men who, representing others it is true, really effected the organization of the AMERICAN MEDICAL ASSOCIATION, whose officers were Knight, Bell, Delafield, Arnold, Stillé. Jones of New Orleans is to be

mentioned among those whose writings have powerfully influenced the trend of medical thought in the United States, and Flint, and Otis and Woodward, to whose industry and ability we owe the "Medical and Surgical History of the War of the Rebellion," and Billings and Fletcher, who have given to the medical world the "Index Catalogue of the Library of the Surgeon-General's Office" of the United States army, and that unique and most useful of current medical publications, the *Index Medicus*. I mention with that feeling of emotion with which we speak of a companion newly passed away, John B. Hamilton, of whose skill as an organizer this ASSOCIATION has had abundant proof, and Pepper, a life of matchless energy and devotion to the widest human interests, whose rare gifts as a physician, abilities as a teacher, civic pride and high patriotism will place him, when the dispassionate history of our times comes to be written, among the great Americans and in the foremost rank of the citizens of that commonwealth which reverently claims Franklin and Rush as her own.

It is not wholly to the ease with which knowledge is spread nor to the great men of the profession that we owe the advanced position of medicine in America to-day. Important as each of those factors is, it may well be questioned whether their combined influence could have impressed upon the art of medicine that peculiarity in which the profession of our country stands preeminent, and which is at once of the greatest practical value and of the richest promise for the future. That peculiarity is the prevalence of high ideals. All kinds of men engage in the pursuit of physic from all kinds of motives. But to the necessity of a livelihood and to personal ambition the American doctor adds, and very often in the absence of those he cherishes, a sort of chivalric devotion to some principle allied to his calling, but only indirectly bearing on his every-day affairs. It may be a collateral science, or preventive medicine, or schemes for the welfare of the poor, or belles-lettres, or medical libraries, or for himself a broader knowledge and a keener art, or toward his fellowman a greater gift of usefulness. Such thoughts are solace in his toil and recreation in his hours of leisure; with widening opportunities and high examples he must have something more than his every-day work. Without some cherished ideal he can not be content. This wholesome mental restlessness is peculiarly American. It comes of our physical restlessness. We lack repose because we abound in energy. Contentment means conservatism and conservatism points in the direction of stagnation. When we speak of stagnation we think of loneliness, of isolation.

The tendency which distinguishes American medicine is essentially opposed to isolation, to individualism. It exerts itself in the direction of a higher, more complete and more specialized organization of the profession. It is this tendency that has made the general fund of knowledge accessible to all members of the profession who care to share in it; that has given to the independent worker in whatever department an uplifting sense of companionship, of community of interest, of sympathy in a common cause. It is this that has brought into the life of the toiling practitioner, in the monotony of his every-day duties and cares, a saving consciousness of personal dignity and power.

To the physicians of northern New Jersey must be ascribed the credit of having made the earliest attempt to promote the interests of the profession by means of organization. In the year 1766 a meeting was held at New Brunswick, attended by delegates from all parts of the State, and a permanent organization effected. The objects of the association, as set forth in the preamble to the constitution, were "mutual improvement, the advancement of the profession, the promotion of the public good, and the cultivation of harmony and friendship among the members." This society held regular meetings twice a year until the breaking out of the war. In 1781 the Massachusetts Medical Society was incorporated. Toward the close of 1786 the College of Physicians of Philadelphia was instituted. Other similar organizations followed from time to time until that memorable meeting of May 7, 1847, at which, by the election of Nathaniel Chapman as president; Jonathan Knight, Alexander H. Stevens, James Moultrie and A. H. Buchanan, vice-presidents; Alfred Stillé and J. H. W. Dunbar, secretaries; and Isaac Hays, treasurer, was finally carried into effect the organization of the AMERICAN MEDICAL ASSOCIATION.

All honor to those who conceived the far-sighted plan. Every State, local and district society may be included within its scope. Every reputable physician in this great country may become eligible for membership. What a power for good is it not capable of wielding! How great this power is may be seen in the growing membership, in the earnest and advanced work of the Sections, in the keen discussions, in the splendid JOURNAL which serves as the permanent record of its transactions, in the illustrious line of its presiding officers. But there are other manifestations of the power of the ASSOCIATION for good that are less obvious, but scarcely less important. They are constantly and steadily increasing over the whole land. They consist in most vigorous growth and activity in the local societies, a higher standard of professional attainment among the members of the profession, a deeper sense of responsibility, a loftier conception of the duties and privileges of our calling. No man who comes within the influence of this far-reaching organization stands alone. He becomes aware that he is a member of a profession to which he owes duties, and from which he derives honor and help. This unseen, wide-spread influence tells quite as powerfully in advancing the general interests of the profession as its splendid annual meetings. But we are less apt to think of it. We need have no concern about the power of the ASSOCIATION. As it has been in the past so will it be in the future, steadily augmenting. It has the intrinsic elements of strength found in all great and comprehensive organizations. What most interests us is how we may best use that power for the good of the profession and the people. We have been half a century gathering strength. Let us put it to some purpose. It is no part of my present duty to go into details, but it may be permitted to me to indicate certain matters in which the influence of the AMERICAN MEDICAL ASSOCIATION may be of importance. There are several organizations with specific purposes which hold their annual meetings at the same time, and whose work is in harmony with ours. It is important that we should give these bodies our full support. This is especially the case with the Association of American Medical Colleges, to the recent action of which we are already committed.

In general, as regards the requirements for the degree, the AMERICAN MEDICAL ASSOCIATION should,

in my opinion, exert an influence to secure uniformity in the requirements of admission, a systematic graded course, with uniform tests at the end of each year, with uniform requirements for graduation. With reference to written examinations, the question of the honor system should be persistently agitated. If that system can be carried out at many of the colleges, at West Point and Annapolis, and at the University of Virginia, why not in all our medical schools? Its general adoption would go far in determining a high standard of personal and professional honor.

It should exert its influence also to secure general uniformity in the examinations for the license to practice among the States and a general reciprocity among those boards by which the licenses may be transferred.

It should strongly exert its influence in the direction of the regulation of the specialties and the requirement of evidence of clinic experience in general medicine as prerequisite to the practice of them.

It should exert its influence in the matter of expert testimony in courts of justice. This subject is a growing scandal. A change of practice is urgently necessary, both in the interest of justice and in that of the medical profession.

It should exert its influence to secure such legal enactments in the several States as will protect the people from the various forms of unorganized and organized quackery and to the end that no license to practice medicine in any of the branches shall be granted to any applicant until such applicant has successfully passed an examination in anatomy, physiology, pathology, surgery, midwifery and the diagnosis of disease; and that a stringent penalty shall be enforced against all unqualified persons who seek to practice on the sick, injured or deformed by any means or on any pretext whatever, except in the case of accident or emergency, and then only for the purpose of immediate relief and assistance.

It should exert its influence to build up in the secular and religious press of the country a proper sense of responsibility in regard to lewd, indecent and criminal advertisements, thinly disguised as medical, and against the appearance in such publications and in certain so-called medical journals of advertisements of nostrums and cure-alls.

It should exert its influence to secure such legislation as will obtain uniform divorce laws for the whole country and do away with the legal enormity of a man and woman being legally married in any State and living in adultery so soon as they have crossed its borders. The question is primarily one of morals, but it is also one of health.

It should exert its influence strongly in favor of proper rearrangement of the status of military and naval medical officers to the end that the efficiency of those branches of the public service may be increased and the recompense and rank of the medical officers properly adjusted.

It should exert its influence to secure the dual appointment of surgeons and physicians to regiments and posts, since the work of the two is complementary and can not in the present state of the art of medicine be properly performed in all its details by any one man, especially in active service; also to secure the establishment of clinic laboratories in connection with the military hospitals in the tropic stations, with the detail of medical officers especially fitted by training and experience for the investigation of tropic diseases and conditions.

It should exert its influence to secure a national quarantine service with full jurisdiction over the seaboards and the lake borders and over internal regions affected with general epidemics or endemic conditions not amenable to the control of the local authorities.

It should exert its influence to secure the appointment of a secretaryship of public medicine, the portfolio of which should be assigned to a medical man to the end that the President may be promptly and authoritatively advised concerning technic questions of vital importance to the welfare of the Nation.

To many of you these suggestions seem Utopian, impracticable. Not so. If we earnestly desire them they will come to pass. Their fulfilment rests with you and in your hands is the power of an organized profession.

MEDICAL ASPECTS OF CRIME.

ORATION ON STATE MEDICINE, BEFORE THE FIFTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, COLUMBUS, OHIO, JUNE 6-9, 1899.

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The limitation and treatment of crime is one of the great questions of the day. The closing hours of the nineteenth century are full of wonders. The progress in science, in literature and in art has been marvelous. Medicine and surgery have made mighty strides. The insane, the feeble-minded, the deaf, dumb and blind have received in these later years treatment that is scientific and successful. The care of the criminal is the one great question that baffles society, and great difficulties have arisen from the fact that the medical aspects of crime have not been sufficiently considered. Criminology of to-day is much in the same condition that psychiatry was when Pinel and Tuke appeared and wrought their memorable reforms, substituting patience and scientific treatment for brutality and chains. This transformation in the care of the insane was brought about by the medical profession, and it is our duty to-day with equal zeal and earnestness to consider this question of criminality, find out its etiology, and provide means for its cure. Already the pioneers, Gall, Lombroso, Benedikt, Ellis and a host of others, all physicians, have done a great work, the practical results of which are now manifest. They have established the fact that the habitual criminal is an abnormal man, the abnormality manifesting itself: 1, physically in the criminal physiognomy, in stigmata of degeneration, in anomalies of the muscular, sensory, respiratory and circulatory systems, and 2, psychically, in moral insensibility, lack of forethought, low grade of intelligence, vanity and egoism and emotional instability.

In approaching the study of this subject we are first surprised by the rapid increase in crime—rapid much beyond the ordinary increase in population. The census reports of our own country make the following exhibit:

Year.	Prisoners.	Ratio to Population.
1850	6,737	1 in 3442
1860	19,086	1 in 1647
1870	32,901	1 in 1171
1880	58,609	1 in 855
1890	83,329	1 in 757

These figures represent the prisoners that were incarcerated, and it has been estimated that only about one-third of them are thus disposed of. This being the case, the number of criminals in 1890 in the United States was about one-quarter of a million. The cost of maintenance, arrest and trial for them has been estimated at about $59,000,000. Now, these statistics, I may say, have been disputed by some criminologists, for the reason that they regard the census reports, prior to 1890, or possibly 1880, as unreliable. Even these doubters admit an increase in crime, objecting simply to the great increase that this table manifests. The statistics of the State of Pennsylvania confirm these national statistics.[1]

	1880.	1890.	Per cent. increase.
Population of State	4,282,891	5,248,574	22.5
Inmates of penal institutions	5,449	7,340	34.7
Defective classes	6,070	9,712	60
Sane in almshouses	6,648	6,905	3.8
Totals	18,167	23,957	31.8

The same is more emphatically true in New York City. The population of that city has increased in the last ten years about 33⅓ per cent., while crime has increased more than 50 per cent. In Chicago the number of arrests for ten years has been as follows:

Year.	No. of Arrests.	Year.	No. of Arrests.
1884	39,434	1889	48,119
1885	40,998	1890	62 230
1886	44,505	1891	70 556
1887	46,505	1892	89,833
1888	50.432	1893	96,976

The consideration of these several reports can not leave the least possible doubt in the mind of any one that crime is increasing throughout the United States in a vastly more rapid ratio than is the population. The two great etiologic factors in the causation of crime are criminal parentage and environment. The effects of these two agencies are strikingly illustrated in the history of the Jukes family, as related by Dugdale.[2] The ancestor of this family, born between 1720 and 1740, lived to an old age and left descendants who have been traced with varying completeness through five generations. The total number of his descendants is 1200. While it includes a certain number of honest workers, it has been a family of criminals, prostitutes, vagabonds and paupers, costing the public treasury about a million and a quarter dollars.

Another of these remarkable exhibits is the tribe of Ben Ishmael, studied by McCulloch.[3] He discovered and identified 1750 descendants of this man living in Kentucky in 17. 0, who had been criminals and paupers, among whom 121 were prostitutes. In six generations 75 per cent. of the cases treated in the City Hospital in Indianapolis were of this man's offspring.

Professor Pelman, of Bonn University, has discovered and identified 709 descendants of Frau Ada Jurke, a notorious drunkard, who was born in 1740, and died in 1800. Of these 7 have been convicted of murder, 76 of other crimes, 144 were professional beggars, 61 lived on charity and 181 were prostitutes. This family has cost the German government for maintenance, cost of courts, almshouses and prisons, one and a quarter millions of dollars.

[1] Boies: Prisoners and Paupers. P. 10. G. P. Putnam & Sons, 1893.
[2] The Jukes: A Study in Crime, Pauperism and Heredity. By R. L. Dugdale. G. P. Putnam & Sons, 1877.
[3] Boies: Prisoners and Paupers. Page 176. G. P. Putnam & Sons, 1893.

Similar studies would bring to light hundreds of just such cases, these three being by no means a remarkable exception in the procreative capacity of criminals and in the effect of parentage and environment.

An important factor in the cause of crime is intemperance. Fully 50 per cent. of the criminals arrested in Chicago are inebriates, and the police reports of New York show about the same proportion. As Macdonald[4] has well expressed it: "The saloon is the place where the criminal finds his accomplices; it is the abode where they not only meditate their crimes, but where they spend the money obtained by crime. The saloon is the true home of the criminal, and sometimes the keeper plays as backer."

Ferri[5] has shown beyond question that in France crime increases and decreases with the more or less abundant vintage, and we may safely attribute, at least, some of the increase of criminality and pauperism in the United States to the increase of intemperance, and we may estimate that alcoholics are the direct or indirect cause of probably 75 per cent. of all the crime committed. None to-day, I think, will gainsay Morel's statement that alcoholism has produced a demoralized and brutalized class of wretched beings, characterized by an early deprivation of instincts, and by indulgence in the most immoral and dangerous actions.

The constant and rapid increase of the urban population is another etiologic factor. The recent growth of cities is one of the phenomena of our social system. When our government was established a century ago, its first census showed only about 3.3 per cent. of the inhabitants of the country living in cities of 8000 and over. The census of 1890 shows such an increase that 27.6 per cent. of our population is urban. None know better than physicians what this crowding together of people means; with the bad air, poor and insufficient food, impure water, children in the midst of want, misery, immorality and vice, it is no wonder that the increase in crime goes *pari passu* with the growth of a city.

The criminal laws and their unreasonable execution are another factor in the causation of crime. The code of to-day is largely the Roman code. In ancient Rome it did well because the death penalty was common. The Coliseum had to be furnished with material for the amusement of the citizens, and "to the lions" was a common sentence; and then Rome had her Tarpeian Rock from which the defectives could be hurled and thus disposed of before the State could be troubled by their presence. To-day, with the death penalty rarely enforced, and with no such cutting off of the supply of criminal material, the law contributes to its increase rather than to its diminution. One of the absurdities of the law is the frequent conviction of the same criminal, not only an absurd work, but an expensive and unprofitable one.

The case of Jane Cakebread of London, with her 269 convictions, is but an exaggeration of daily occurrences in our own courts. Jane Cakebread, like many of our own criminals, should have been convicted but once. Our jails are schools of crime. The delay of the law gives the children, sometimes arrested for trifling offenses, weeks and months of tutelage under old and often incorrigible masters in crime, even before their guilt or innocence has been established, and

[4] Macdonald: Criminology. P. 88. Funk and Wagnalls Co., 1893.
[5] Ferri: Criminal Sociology. P. 117. D. Appleton & Co., 1896.

after conviction further instruction in the same arts, so that when they leave, after their brief period of restraint, they are experts and will do much damage to person or property before they are again sent up for further instruction.

Then, again, the laws are defective because they are directed against the crime and not the criminal, overlooking the important fact that the crime is an accident, and the criminal may be the product of a long line of etiologic factors demanding for his cure, not punishment but reformation. The law says that if two men commit the same crime their guilt is equal, and the same punishment must be inflicted on both, overlooking the possibility that the one may be a hereditary habitual criminal whose whole life has been a war against society, and who is utterly incapable of reformation, and that the other may be simply the victim of circumstances, whose life previously may have been pure and noble. To the one man the prison may be a haven of rest; to the other, a living tomb.

The habitual criminal, who constitutes the great bulk of the class, is a biologic study, and his anatomic, physiologic and psychologic nature demands our most careful investigation, in order that we may determine the ways and the means to settle the various and vast questions to which he gives rise. There is a criminal physiognomy, by no means easy to describe, but the same, no matter whether seen in our jails or in the jails of any other country on the globe. Any physician, by looking at the face, without being able to describe its anatomic peculiarities, can reach conclusions, as Mantegazza writes, on five important problems: 1. The condition of health or of sickness. 2. The degree of beauty or of ugliness. 3. The moral worth. 4. The intellectual worth. 5. The race. The study of physiognomy, regarded as of such great importance by the physician of the last century, is too much neglected by the physician of to-day.

Prognathism is a prominent characteristic of the criminal face. The lower jaw is often remarkably developed. Manouvrier found that while the average weight of the Parisian criminal skull is, if anything, below that of the ordinary Parisian, the jaw of the latter averages 80 grams, and that of the former 94 grams. The prominence of the zygoma has been noticed by many observers, and anomalies of the teeth and jaw are common. Talbot[6] has worked out the following table, which is interesting in this connection:

		JAWS.							TEETH.			
	Number examined.	V-shaped.	Partial V.	Semi V.	Saddle.	Partial Saddle.	Semi-Saddle.	Normal.	Irregular.	Tubercles of Teeth. Present.	Tubercles of Teeth. Absent.	Regular.
Criminals at Pontiac, Ill.	465	75	71	3	66	63	16	171	123	13	552	342
Criminals at Elmira, N. Y.	1041	381	49	1	157	26	..	422	220	26	1015	821
Criminals at Joliet, Ill.	468	13	79	19	59	92	24	163	..	..	..	..
Prostitutes at Chicago Bridewell	30	10	17	7	27	10	10	..	..	..	..	..
Insane at Dunning, Ill.	700	26	47	..	12	..	..	486	..	..	..	..
Insane at Kankakee, Ill.	613	60	107	29	89	105	61	163	..	..	..	..
Idiots, imbeciles	1977	129	236	..	207	..	..	1095	..	..	..	..
Deaf and dumb	1035	169	192	..	203	..	..	961	..	..	..	..
Blind	207	7	9	..	11	..	..	105	..	..	..	..
Inebriates[1]	514	1.5	24.4	0.3	9.3	15.2	7.7	25.4	..	..	..	..

No cases of arrested or excessive development. [1] Per cent.

The ear is a feature of great importance. It is so sensitive to vasomotor changes, to extremes of heat and cold and to varying emotional states, that it is an organ which frequently shows degeneracy. Talbot thus describes the normal ear: "It should have a gracefully curved outline, be nowhere pointed or irregular, having a well-defined helix, separated from the antihelix by a distinct scaphoid fossa, extending down nearly to the level of the antitragus; its roots to be lost in the concha before reaching the antihelix. The antihelix should not be unduly prominent, and should have a well-marked bifurcation at its upper extremity. The lobule should be shapely, not adherent, not too pendulous, and free from grooves extending from the scaphoid fossa. It should not average over two and a half inches in length, and one and a quarter in breadth."

The ears of criminals show many deformities, such as Darwinian tubercles, absence of helix, of antitragus, of lobule, and excessive development of antihelix and of the tragus, and the auriculo-temporal angle undergoes a gradual progression from below 90 in the normal, above 99 in criminals, up to above 100 among apes.

The criminal nose has been measured and studied with great care by Ottolenghi. He finds that the criminal nose in general is rectilinear, more rarely undulating, with horizontal base of medium length, rather large, and frequently deviating to one side. He has established the anatomic relationship between the criminals, insane persons, epileptics and monomaniacs.

Pallor of the skin is common among criminals. Ottolenghi has investigated wrinkles on the faces of 200 criminals as compared with 200 normal persons, and found that they are much more marked in the criminals than in the non-criminal, that they occur much earlier in life and are of greater prevalence about the nose and mouth, that is, about the least contemplative and more material parts of the face.

The beard in criminals is usually scanty; as against 1.5 per cent. of absence of beard in normal persons, Marro found 13.9 per cent. in criminals, and a very large proportion as having scanty beards. On the contrary, the hair of the head is usually very abundant, often coarse and woolly.

The cranial capacity of criminals has been studied by many with diverse conclusions. The average size is probably about the same for the two classes. The cephalic indices are frequently an exaggeration of those of the race to which the criminal belongs. The auricular angles, which depend on the form of the cranium, give interesting results, as determined by Quatrafages,[7] Hamy, and confirmed by others:

[6] Talbot: Degeneracy, Its Causes, p. 257. Charles Scribner's Sons, 1898.

[7] Macdonald: Criminology, p. 49. Funk and Wagnalls Co., 1893.

	Nasal orbital angle. Degs.	Frontal angle. Degs.	Parietal angle. Degs.	Occipital angle. Degs.	Angle of cerebellum. Degs.	Total cerebral angle. Degs.
Gorilla	61	35	58	. .	. .	. .
Chimpanzee	59.5	35	54	19	43	108
Microcephalics	52.5	41.2	59.3	36.5	35.7	137
Idiots (not microcephalic)	47.5	44	62.5	38.3	32.3	144.8
New Caledonians { Men	. .	49	63	36	30	148
New Caledonians { Women	. .	52	61	32	27	145
African negroes	43.3	51.4	61.7	36.6	35.1	149.7
French assassins (22 in No.)	51.8	50.9	67.1	40.9	29.9	158.9
Modern Parisians { Men	50.3	54.6	59.7	40.1	30.6	154.4
Modern Parisians { Women	48.5	55.4	59.8	37.7	30.1	152.9

This table shows a diminished volume in frontal territory. This I have demonstrated to my own satisfaction by numerous conformature observations.

Dr. Corre has arranged the following table that gives some interesting facial characteristics:

FACE.

	NORMAL MEN.			CRIMINALS.								
	TOPINARD.			ORCHANZI.	CORRE.							LOMBROSO.
	Parisians.	Italians.	Negroes.	Assassins.	Violation.	Murder under sectional influences.	Murder under diverse influences.	Murder and theft.	Murder and suicide.	Murder premeditated.	Average.	Criminals in general.
Total length	128 (?)	. .	124.0	. . . .	135.5	131.0	132.2	138.0	133.0	140.0	. . . .	. . . .
Simple length	87.7	86.0	. . .	89.0	90.0	87.6	90.4	86.0	92.0	92.6	89.7	92.0
Bizygomatic breadth	132.2	. .	130.0	133.6	131.0	133.3	132.8	135.0	132.0	133.0	132.7	. . . .
Indices[1]												
Facial	65.9	. .	68.6	65.3	68.6	66.2	68.0	63.6	69.6	69.6	67.0	
Nasal	46.8	. .	. .	45.6	. .	. .	. .	. .	. .	. .	. .	
Orbital	83.7	. .	. .	88.4	. .	. .	. .	. .	. .	. .	. .	
Palatal	74.7	. .	. .	81.5	. .	. .	. .	. .	. .	. .	. .	

[1] Facial index expresses relation of maximum breadth to simple length of face. Nasal index expresses relation of maximum breadth to maximum length of nose. Orbital index expresses relation of vertical diameter of the base of orbit to its horizontal diameter. Palatal index expresses relation of width to length of palatal vault.

Macdonald[8] has gathered together the following interesting facts in craniology: 1. Frequency of the median (or metopic) frontal suture. This character appears with brachycephalic heads and may be regarded as indicating inferiority. 2. The parietal or parieto-occipital sutures grow together earlier. Thus the parietal or occipito-parietal sutures are soon effaced, so the parieto-frontal and temporal. 3. The notched sutures are the simplest. This anomaly (as an interparietal bone in Peruvians and negroes) is considered by Anouchine as a sign of inferiority; it is normal in certain animals and constant in embryonic life. 4. The supernumerary or Wormian bones are frequent in the region of the median posterior fontanelle and of the lateral posterior fontanelles. 5. Other characters are the development of the superciliary ridges with the effacement or even frequent depression of the intermediary protuberance; the development of the mastoid apophyses. These characters are correlative with the great development of the temporo-parietal region, which in turn is related to the development of the jaw. 6. The backward direction of the plane of the occipital depression, as in inferior races, is more frequent in criminals.

Anomalies of the skull in criminals have been noted by many observers. Ferri[9] has prepared the following interesting table, comparing homicides with soldiers:

Persons in whom I detected	Homicides sentenced.		Soldiers—711.
	To penal servitude—346.	To imprisonment—363.	
	Per cent.	Per cent.	Per cent.
No anomaly	11.9	8.2	37
One or two anomalies	47.2	56.6	51
Three or four anomalies	33.9	32.6	11
Five or six anomalies	6.7	2.3	0
Seven or more anomalies	.3	.3	0

The brain weight of the criminal does not differ materially from that of the non-criminal. The potentiality of the brain does not depend so much on its size and weight as on its structure. The brain of Gambetta was very small, but very elaborately convoluted, so that it doubtless contained more and better neurons than that of the average person; one of the heaviest brains on record is that of a bricklayer who could neither read nor write. Flesch, out of fifty brains of criminals, did not find one without anomalies. From an examination of twenty-eight brains he found alterations in the meninges to the extent of 50 per cent. in the way of adhesions, various forms of meningitis, hemorrhage, atrophy and atheroma; these observations have met with abundant confirmation.

Benedikt, one of the most thorough and conscientious workers in this field of criminal pathology, found in an examination of nineteen brains of criminals a confluence of fissures. If we imagine the fissures to be water-courses, it might be said that a floating body in any one of them could enter almost all the others. While this type is not necessarily criminal and while the criminal may have another type of brain, yet this is a type of low organization, an absence of brain substance because of the absence of connecting gyri. Benedikt also emphasizes the fissures which he terms the external orbital, very constant in apes, not commonly distinct in the human brain, but rarely absent in the criminal brain.

Another interesting anomaly noted by this observer is that the frontal lobe is sometimes divided into four convolutions instead of three, which he considers an evidence of reversion to the carnivorous type. Professor Benedikt has found other anomalies

[8] Macdonald: Criminology, p. 52.

[9] Criminal Sociology, p. 12. D. Appleton & Co., 1896.

in brain structure in criminals. In a recent communication he writes: "As we know not the special psychologic values of these anatomic anomalies for the intellect, for the morality, for the esthetic sense and for the will, we must not be hasty with our conclusions, and principally with their application to individual cases or to special individual qualities. I insist always that from exceptional and atypic forms of the skull, as well as of the brain, we can generally deduce only the right of suspect of physiologic anomaly."

The feet of the criminal frequently show a tendency to revert to the flat foot of the lower races, and this is usually associated with a low instep.

The thyroid glands of the inmates of the Elmira and Pontiac reformatories were examined by Dr. Talbot, who has given me the following figures:

	Number examined.	Normal.	Excessive.	Deficient.
Elmira	1045	106	909	36
Pontiac	465	145	183	137

Bono, in studying the eyesight of criminals, found 60 per cent. of 221 young criminals color-blind. Bilikow, who made similar on a hundred murderers, found 50 per cent. of them color-blind.

Tactile, temperature and pain sense are rarely normal in criminals. They are usually much diminished, especially pain sense. Anomalies of patellar tendon reflex are common; they are either exaggerated or very frequently absent.

In fifty autopsies, Flesch found 20 per cent. which showed affections of the heart so grave as to be the cause of death. On calculating accidental affections of the pericardium and endocardium the rate was 50 per cent. In this respect the criminal resembles the insane. Many of the manifestations of insanity are due to cardiovascular disturbances, and this might reasonably be expected, when we remember that the blood-supply of the brain is much more extensive than that of any other organ not concerned in blood-making or blood-purification.

The practice of tattooing is very common among criminals, and this, I take it, is remarkable, for one would suppose that among a class whose identity for their own sake should be concealed as much as possible such a practice would not exist at all.

On the psychic side of the criminal's character we find moral insensibility; a lack of forethought; a low grade of intelligence, vanity, egoism and emotional insanity.

The next important aspect of this question is the treatment; this should be based on etiology, to be scientific, and as criminal parentage and environment are the two great causative factors, the treatment should be directed against them. We should stop the propagation of crime. We should make it impossible for there to be any more Jukes, Ben Ishmael or Jurkes families, and to do this marriage should be regulated. There should be no possibility under the law for these people to marry and propagate their kind. Those who oppose the regulation of marriage contend that it would simply multiply prostitution, but multiplying prostitution does not necessarily mean, fortunately, promoting the propagation of criminals; for while the criminal man may have and does have remarkable virility, yet the prostitute rarely has the capacity of propagation. Very early in her career, by a wonderful conservatism in nature, her maternal passages become diseased to such an extent as to make conception almost impossible or very rare.

The operation proposed by Dr. Ochsner,[10] consisting in a resection of the vasa deferentia, does not mutilate the person; it does not destroy his sexual power, but it does prevent his power of propagation, and it is an operation attended with very little risk to life, and in my judgment it may be made a most useful agent in preventing an increase in criminals. Castration has been proposed by some, but the operation is vastly more dangerous. It is a great mutilation, and destroys sexual power, and for these several reasons is by no means as useful an operation as the one proposed above.

The children of these degenerates should be taken in charge by the courts and placed at the very earliest possible age, certainly not later than 7 years, in a favorable environment, and by this means the great bulk of them might be made useful citizens. Alcoholism is a very important and exceedingly difficult etiologic factor to dispose of. The saloon is such a powerful factor in our political system that it seems to be impossible to have legislators enact laws that will properly regulate this great traffic. We see no way to accomplish any positive results except as physicians spreading information among the people as to the baneful influence of intemperance, and so educating the old and the young that the powerful influence of the great factor in politics may be neutralized. We need to-day legislation for inebriates; authority to place them in prolonged confinement, during which they may undergo such treatment as may be necessary for their cure, and we certainly need some legislation by which the traffic in alcoholics may be diminished, and by which the quality of the liquor furnished may be improved. But the best way out of it is not by prohibition at this time, surely, but it may be by a high license system. There should be some remedy provided against the constant increase in urban population. Some method should be provided for the restoration of the equilibrium, some way by which the unproductive citizen might be transported to the country and made productive.

The last etiologic factor—the laws and the unreasonable manner of their execution—demands such changes that those who are concerned in the sentencing of criminals should know something about their biologic condition, and surely the ordinary juryman can not possibly possess this knowledge. It would seem best, therefore, that the determination of this question should not rest with the ordinary juryman; that all sentences should be indeterminate; that the criminal should be sent to a prison or reformatory, not for any specific time, but until he is reformed or cured, precisely as the patient is sent to a hospital. A person who has committed his first offense should not be permitted to associate with hardened criminals; trials should be speedy and prompt. The pardoning power should be taken out of the hands of governors of States and placed under the control of a board of pardons, whose members shall be skilled in criminal anthropology. For criminal minor children there should be reform shools, where, through a protracted period these children should be educated by manual training, and taught some useful occupation that may be to them the means of earning an honorable livelihood, and when the time comes for their discharge,

[10] Ochsner: Surgical Treatment of Habitual Criminals. Journal, April 22, 1899.

they should be furnished with the means by which they may establish themselves in the occupation for which they have been trained. This is not an untried proposition, but is to-day in practice in Russia. There should be reformatories for the older criminals who are capable of reformation, and these also should be taught not only the rudiments of an English education, but useful arts, and their confinement should be until they are able to withstand temptation and earn an honest living, and when released from the care of the reformatory they, too, should be provided with a reasonable capital with which to make a start in life. And, lastly, for those who are incapable of reformation there should be penitentiaries for their life-long incarceration, and these should be made as near self-sustaining as possible by having the prisoners employed in useful occupations.

Original Articles.

SANITARY LESSONS OF THE WAR.*

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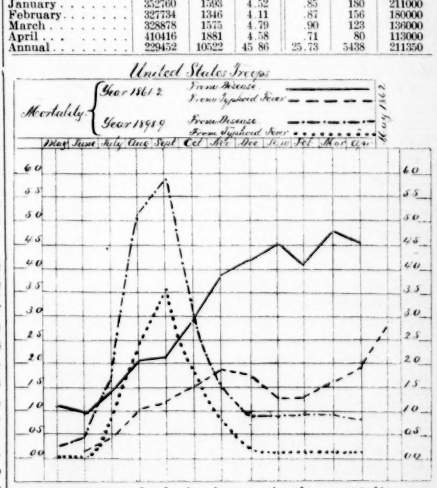
As compared with the Civil War and with other great wars during the present century, the mortality from wounds and disease among our troops during the war with Spain has been low. Our wounded have, to a large extent, had the advantage of prompt treatment with antiseptic dressings and a very considerable proportion of those who were not killed outright have recovered without any mutilating operation or septic complication. The mortality from disease has also been comparatively low, but unfortunately during the first months of the war, that scourge of new levies of new troops—typhoid fever—prevailed in many of our camps and claimed numerous victims. It is well known to sanitarians and military surgeons that as a general rule more soldiers succumb to disease than are killed by the bullets of the enemy, and our recent war has not been an exception in this regard. The total number of deaths reported in our enlarged army, including regulars and volunteers, from May 1, 1898, to April 30, 1899, is 6406. Of these, 5438 died of disease and 968 were killed in battle or died of wounds, injuries or accident. During the Civil War the number of deaths from disease was 186,216.[1] The number who were killed in battle or died of wounds was 93,969, or about one-half of the deaths from disease. The total deaths from disease in the Union armies from the commencement of the war to Dec. 31, 1862, was 34,326, and in the Confederate armies during the same period, 31,238.

The accompanying table gives the monthly death-rates from disease in our armies from May 1, 1898, to April 30, 1899, and, for comparison, the rates for the same period in the first twelve months of the Civil War.

In comparing the death-rates from disease during the year of the Spanish-American War, May 1, 1898, to April 30, 1899, and the first year of the Civil War, May 1, 1861, to April 30, 1862, note should be taken in the first place that the mean strength in May, 1861, was only 16,161, as compared with 163,726 men in service in May, 1898. The mustering in of volunteer troops was more slow in 1861 than during the recent war, so that it was not until September and October, 1861, that the mean strength assumed proportions equal to that of corresponding months of the Spanish War. Although the number present in the camps of 1861–62 after October, 1861, was largely in excess of those aggregated during the past year, the average annual strength during both wars did not differ greatly. Nevertheless, the deaths from disease in 1861–62 numbered 10,522, while in 1898–99 they amounted only to 5438. The death-rate per thousand of strength mounted gradually month by month in 1861–62, and indeed it did not reach its acme until February, 1863, when the rate of 6.39 was reached. In 1898, on the other hand, the acme, 5.89, was reached suddenly in September, but owing to the sanitary measures adopted, the fall during October and November was as rapid as had been the rise.

COMPARISON OF MONTHLY DEATH-RATES (PER 1000) FROM DISEASE.

Months.	1861-1862. Mean Strength.	Number of Deaths.	Ratio per 1000 of M. S.	1898-1899. Ratio per 1000 of M. S.	Number of Deaths.	Mean Strength.
May	16161	18	1.11	.26	42	163726
June	66950	55	.82	.44	90	202526
July	71125	106	1.49	1.72	451	362613
August	112359	242	2.15	5.21	1400	268507
September	165126	365	2.21	5.89	1541	261824
October	256884	725	2.82	3.17	809	255000
November	301848	1145	3.79	1.51	365	242000
December	343184	1471	4.29	.84	201	240000
January	352760	1593	4.52	.85	180	211000
February	327734	1346	4.11	.87	156	180000
March	328878	1575	4.79	.90	123	136000
April	410416	1881	4.58	.71	80	113000
Annual	229452	10522	45.86	25.73	5438	211350



The same gradual rise is seen in the mortality statistics of typhoid fever during the Civil War. The highest death-rate, 2.81, was not reached until May, 1862, the thirteenth month of the aggregation of the troops, when 1092 men died of this disease, and the fall of the rates was as gradual as the rise. On the other hand, the rise in 1898 was sudden, the maximum rate, 3.57, being reached in September, when 933 men died of this disease; but the fall during the months of October and November was as notable as the rise. This sudden suppression of the disease can not be attributed to an exhaustion of the susceptibility of the troops to attack from this fever, as they only suf-

* Presented to the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] In addition to this 24,184 deaths are recorded as from unknown causes, and probably most of these deaths were from disease.

fered at the rate of 12.37 per thousand of strength during the twelve months, whereas the troops of the Civil War suffered at the rate of 19.71 per thousand. It can be attributed only to the active preventive measures that were instituted, and especially to moving the troops to fresh camp sites and the greater care exercised in the disposal of excreta.

The foregoing chart shows by the graphic method the same comparison as is given in the above table. The notable rise in the general death-rate from disease, and in that from typhoid fever alone, which occurred in August and September, was undoubtedly due to the insanitary conditions resulting from the hasty assembling of large bodies of undisciplined troops in our camps of instruction.

The average annual mortality from typhoid fever in our regular army since the Civil War has been: for the first decade (1868–1877), 95 per 100,000 of mean strength (.95 per 1000); for the second decade (1878–1887), 108 per 100,000; for the third decade (1888–1897), 55 per 100,000. This latter rate compares favorably with that of many of our principal cities. For example, it is exceeded by the typhoid death-rate in the city of Washington, which is 78.1 per 100,000 (average of 10 years—1888–1897); by that of the city of Chicago, which is 64.4 per 100,000; by that of Pittsburg, which is 88 per 100,000. These figures, however, do not show the entire mortality in the cities mentioned as a result of typhoid fever, for without doubt many of the deaths ascribed to "malarial fevers" were in fact due to typhoid infection. Thus in the city of Washington the deaths reported from typhoid and typho-malarial fever (average of 10 years) numbered 78.1 per 100,000 of the population, while 25.4 per 100,000 are recorded as due to malarial fever. In Baltimore the mortality as recorded from typhoid fever is 41.5, and from "typho-malarial and other malarial fevers" 18.3 per 100,000. In St. Louis the figures are: typhoid fever, 35.7, typho-malarial and other malarial fevers, 49 per 100,000; in New Orleans typhoid fever 26.1, typho-malarial and other malarial fevers, 107.2 per 100,000.

It will be seen that sanitary conditions at our military posts in time of peace, as judged by the typhoid death-rate, compare favorably with those in our large cities in various parts of the country. As a matter of fact great attention has been given to post sanitation for many years past, and through the persistent efforts of officers of the medical department great improvements have been made, especially during the past ten years. The result is shown in a reduction of the typhoid mortality from 108 per 100,000 in the ten years ending in 1887, to 55 per 100,000 in the decade ending in 1897. Hygiene is made one of the principal subjects of examination for candidates desiring appointment in the medical corps of the army, and at subsequent examinations for promotion to the grade of captain and major, is given a most prominent place. It is also the most prominent subject in the course of instruction at the Army Medical School, where the student-officers spend five hours daily for a period of five months in practical laboratory work relating for the most part to the cause and prevention of infectious diseases. It should be remembered, however, that the Army Medical School was not established until 1893, and consequently but a small proportion of the medical officers of the army have had the advantage of this course of instruction.

The comparatively small number of medical officers of the regular army available for duty in the large camps occupied by our volunteer troops at the outset of the war proved to be entirely inadequate to control the sanitary situation in these camps, and as a result of the conditions existing, the mortality from typhoid fever in our armies during the year ending April 30, 1899, has been more than twenty-two times the annual mortality in our regular army during the decade immediately preceding the war period. As compared with the first year of the Civil War, however, there is a decided improvement, the typhoid mortality for the first year of the Civil War having been 1971 per 100,000 of mean strength, and for the Spanish-American War, 1237 per 100,000. Moreover, as shown by the chart, the vigorous sanitary measures enforced enabled our troops to quickly free themselves from the ravages of this infectious disease, and while the line of typhoid mortality continued to ascend during the first year of the Civil War and subsequently, it rapidly fell after the middle of September last and for the last six months of the period under consideration has been remarkably low. Indeed, in the history of large armies the record has never heretofore been equaled.

In view of the great progress which has been made since the Civil War in our knowlege of the etiology and prevention of those infectious diseases, which have in the past been most fatal to armies, the writer had hoped that the mortality from preventable diseases might be greatly reduced from the outset, notwithstanding the difficulties inseparably connected with the hasty assembling of large bodies of undisciplined troops in our camps of instruction.

As we now know the cause of typhoid fever, the biologic characters of the typhoid bacillus, and the physical and chemic agents by which this bacillus may be destroyed, sanitarians have no difficulty in formulating rules relating to its prevention, which if strictly followed, would, to a great extent at least, protect our armies from its ravages.

In the writer's prize essay on "Disinfection and Personal Prophylaxis in Infectious Diseases," published by the American Public Health Association in 1885, the following directions will be found:

> In the sick room we have disease germs at an advantage, for we know where to find them, as well as how to kill them. Having this knowledge, not to apply it would be criminal negligence, for our efforts to restrict the extension of infectious diseases must depend largely upon the proper use of disinfectants in the sick-room.
>
> *Disinfection of excreta, etc.*—The dejections of patients suffering from an infectious disease should be disinfected before they are thrown into a water-closet or privy vault. This is especially important in cholera, typhoid fever, yellow fever and other diseases in which there is evidence that the infectious agent is capable of self multiplication, in suitable pabulum, external to the human body. Vomited matters and the sputa, in these and other infectious diseases, should also be promptly disinfected. This is especially important in cholera, diphtheria, scarlet fever, whooping cough and tuberculosis. It seems advisable, also, to treat the urine of patients sick with an infectious disease with a disinfecting solution.
>
> For the disinfection of excreta in the sick-room, a solution of chlorid of lime is to be recommended. This is an excellent and prompt deodorant, as well as a disinfectant. A quart of the standard solution (No. 1), recommended by the committee on disinfectants of the American Public Health Association, will suffice for an ordinary liquid discharge in cholera or typhoid fever; but for a copious discharge it will be prudent to use twice this quantity, and for solid fecal matter a stronger solution will be required. As chlorid of lime is quite cheap, it will be best to keep on the safe side, and to make the solution for the disinfection of excreta by dissolving eight ounces of chlorid of lime in a gallon of water. This solution should be placed in the vessel before it receives the discharge. The material to

be disinfected should be well mixed with the disinfecting solution by agitating the vessel, and from thirty minutes to an hour should be allowed for the action of the disinfectant before the contents are thrown into a water-closet or privy vault.

In the manual for the medical department, which at the outset of the war was distributed for the information of all medical officers, the following directions will be found:

91. *a.*—Disinfectants are issued, as are medicines, to be used by medical officers when actually required for some specific purpose. Chlorid of lime, carbolic acid and mercuric chlorid are issued by the medical department for use as disinfectants, properly so-called. A solution containing 4 per cent. of good chlorid of lime or 5 per cent. of carbolic acid is suitable for disinfecting the excreta of patients with cholera or typhoid fever, or the sputa of patients suffering from diphtheria, scarlet fever or tuberculosis. The floors, furniture, etc., in rooms occupied by patients suffering from an infectious disease, may be washed with a 2 per cent. solution of carbolic acid, or with mercuric chlorid of 1 1000. Soiled bed-linen, underclothing, etc., used by such patients, should be immersed in one of the above-mentioned solutions before it is sent to the laundry.

92. When accumulations of organic material undergoing decomposition can not be removed or buried they may be treated with an antiseptic solution or with freshly-burned quicklime. Quicklime is also a valuable disinfectant, and may be substituted for the more expensive chlorid of lime for disinfection of typhoid and cholera excreta, etc. For this purpose freshly-prepared milk of lime should be used, containing about one part, by weight, of hydrate of lime to eight of water.

93. During the prevalence of an epidemic, or when there is reason to believe that infectious material has been introduced from any source, latrines and cesspools may be treated with milk of lime in the proportion of 5 parts to 100 parts of the contents of vault, and the daily addition of 10 parts for 100 parts of daily increment of feces.

At the outset of the war with Spain the following sanitary circular was issued:

WAR DEPARTMENT: SURGEON-GENERAL'S OFFICE,
WASHINGTON, April 25, 1898.

CIRCULAR No. 1:

In time of war a great responsibility rests upon medical officers of the army, for the result of a campaign may depend upon the sanitary measures adopted or neglected by commanding generals of armies in the field. The medical officer is responsible for proper recommendations relating to the protection of the health of troops in camp or in garrison, and it is believed that, as a rule, medical officers of the United States army are well informed as to the necessary measures of prophylaxis and the serious results which infallibly follow a neglect of these measures, especially when unacclimated troops are called upon for service in a tropic or semitropic country during the sickly season. In Cuba our armies will have to contend not only with malarial fevers and the usual camp diseases—typhoid fever, diarrhea and dysentery—but they will be more or less exposed in localities where yellow fever is endemic and under conditions extremely favorable for the development of an epidemic among unacclimated troops. In view of this danger, the attention of medical officers, and of all others responsible for the health of our troops in the field, is invited to the following recommendations:

When practicable, camps should be established on high and well drained ground not previously occupied.

Sinks should be dug before a camp is occupied, or as soon after as practicable. The surface of fecal matter should be covered with fresh earth, or quicklime or ashes, three times a day.

New sinks should be dug and old ones filled when contents of old ones are two feet from surface of ground.

Every man should be punished who fails to make use of the sinks.

All kitchen refuse should be promptly buried and perfect sanitary police maintained.

Troops should drink only boiled or filtered water and coffee or tea (hot or cold) except where spring water can be obtained which is pronounced to be wholesome by a medical officer.

Every case of fever should receive prompt attention. If albumin is found in the urine of a patient with fever it should be considered suspicious (of yellow fever) and he should be placed in an isolated tent. The discharges of patients with fever should always be disinfected at once with a solution of carbolic acid (5 per cent.) or chlorid of lime (6 oz. to a gallon of water), or with milk of lime, made from fresh quicklime.

Whenever a case of yellow fever occurs in camp the troops should be promptly moved to a fresh camping-ground located a mile or more from infected camp.

No doubt typhoid fever, camp diarrhea, and probably yellow fever are frequently communicated to soldiers in camp through the agency of flies, which swarm about fecal matter and filth of all kinds deposited upon the ground or in shallow pits, and directly convey infectious material, attached to their feet or contained in their excreta, to the food which is exposed while being prepared at the company kitchens or while being served in the mess tent. It is for this reason that a strict sanitary police is so important. Also because the water-supply may be contaminated in the same way, or by surface drainage.

If it can be avoided, marches should not be made in the hottest part of the day—from 10 A.M. to 5 P.M.

When called upon for duty at night or early in the morning, a cup of hot coffee should be taken.

It is unsafe to eat heartily or drink freely when greatly fatigued or overheated.

Ripe fruit may be eaten in moderation, but green or overripe fruit will give rise to bowel complaints. Food should be thoroughly cooked and free from fermentation or putrefactive changes.

In decidedly malarious localities from 3 to 5 grains of quinin may be taken in the early morning as a prophylactic, but the taking of quinin as a routine practice should only be recommended under exceptional circumstances.

Light woolen underclothing should be worn, and when a soldier's clothing or bedding becomes damp from exposure to rain or heavy dews, the first opportunity should be taken to dry it in the sun or by fires.

GEO. M. STERNBERG,
Surgeon-General U.S.A.

Early in August the attention of medical officers was again directed to the importance of camp sanitation and disinfection of the excreta of "patients with fever," by Circular No. 5.

WAR DEPARTMENT: SURGEON GENERAL'S OFFICE,
WASHINGTON, Aug. 8, 1898.

CIRCULAR No. 5.

The attention of medical officers is invited to Circular No. 1 from this office, dated Washington, April 25, 1898.

The extensive prevalence of typhoid fever in camps of instruction indicates that the sanitary recommendations made in this circular have not been carried out. If medical officers have failed to make the proper recommendations as indicated, the responsibility rests with them. If the recommendations have been made and not acted upon by those having authority in the various camps, the responsibility is not with the medical department, but these recommendations should be repeated, and commanding officers urged to move their camps at frequent intervals and to maintain a strict sanitary police.

GEORGE M. STERNBERG,
Surgeon General, U. S. A.

On September 5 the following circular was issued:

WAR DEPARTMENT: SURGEON-GENERAL'S OFFICE,
WASHINGTON, Sept. 5, 1898.

CIRCULAR No. 7.

The attention of chief surgeons and of all medical officers on duty with troops in the field is called to the following paragraphs from the Manual for the Medical Department:

92. When accumulations of organic material undergoing decomposition can not be removed or buried, they may be treated with an antiseptic solution, or with freshly burned quicklime. Quicklime is also a valuable disinfectant, and may be substituted for the more expensive chlorid of lime for disinfection of typhoid and cholera excreta, etc. For this purpose, freshly prepared *milk of lime* should be used, containing about 1 part, by weight, of hydrate of lime, to 8 of water.

93. During the prevalence of an epidemic, or when there is reason to believe that infectious material has been introduced from any source, latrines and cesspools may be treated with milk of lime, in the proportion of 5 parts to 100 parts of the contents of the vault, and the daily addition of 10 parts for 100 parts of daily increment of feces.

Quicklime should be purchased in such quantities as may be necessary for the purpose of carrying out these instructions, and vouchers sent to the surgeon-general of the army for payment from the medical and hospital appropriation.

GEORGE M. STERNBERG,
Surgeon-General, U. S. A.

The following letter was addressed to the adjutant-general of the army on October 31.

October 31, 1898.

Adjutant General of the Army. Sir:—I have the honor to make the following recommendations with reference to the protection of our troops in permanent camps in this country and in the islands at present occupied by our forces, from the infectious diseases which are liable to prevail where insanitary conditions exist:

1. No camp should be established unless there is an abundant supply of pure water for drinking, bathing and culinary purposes. Experience shows that reliance upon filtration, or upon sterilization by boiling, is very uncertain, owing to the difficulty of enforcing the use of the appliances provided for this purpose. Nevertheless, I recommend that portable filters of an approved model be supplied to troops in camp, for use when on the march or under any circumstances where it becomes necessary to use water which may possibly be contaminated by the germs of any one of the infectious diseases which experience has shown to be most dangerous to troops in the field—typhoid fever, cholera, dysentery, camp diarrhea, yellow fever. Company commanders should be made responsible for the proper use of these filters, and, as they require frequent cleaning and careful using in order to preserve their efficiency, they should be placed in the immediate care of a reliable and properly instructed non-commissioned officer, who should have a suitable detail to assist him in operating them for the filtration of all water used for drinking purposes.

2. Disposal of excreta. It has been demonstrated that the germs of typhoid fever, cholera, dysentery and camp diarrhea are present in the discharges of those suffering from these diseases and the propagation of these infectious camp diseases results, to a large extent, from failure to properly dispose of excreta. These diseases are frequently not recognized in the earlier stages or when the cases are mild in character, and the discharges of such persons thrown upon the ground or in sinks which are not properly disinfected almost inevitably lead to a propagation of the disease and often to a general camp infection. This can only be guarded against by a complete system of sewers and water closets connected with them, by some efficient method of removing excreta from the camp, or by its prompt and complete disinfection *in situ* if sinks are used. Experience shows that the latter method is difficult to carry out and requires the most constant and intelligent supervision. The first cost of a complete system of sewers for a camp which is to be occupied for several months would be small compared with the expense resulting from an epidemic of typhoid fever, yellow fever or cholera. It may be safely said that the expense resulting from the large number of cases of typhoid fever in our camps during the past summer has been greatly in excess of the cost of a system of sewers, where this would have been practicable, or of some other efficient method of disposing of excreta. As the best alternative where a camp is not to be occupied long enough to justify the establishment of a complete system of sewers, or where for any reason this is impracticable, I would suggest the following method of disposing of excreta: I would provide a sufficient number of cylindric galvanized iron receptacles, eighteen inches in diameter and eighteen inches deep, provided with a galvanized iron cover and having a trough around the outside of the vessel, three inches deep, for the purpose of containing a disinfecting fluid, in order that when the cover is in position this may serve as a valve preventing the entrance of flies or the escape of foul odors. A second cover of metal, having a proper aperture to serve as a privy seat, should be provided. When about to be used the closed cover would be removed from the iron receptacle, leaving the seat exposed. After use the cover should at once be replaced. These cylindric vessels could be partly filled with a solution of carbolic acid, or the contents could be treated with quicklime, dry earth or ashes. They should be removed at regular intervals and the contents emptied into a pit far removed from the camp, or disposed of by cremation. There should be a sufficient number of these vessels to put a clean one in position when those requiring removal are taken away to be emptied and cleaned. These vessels should be cleaned by the use of boiling water (or by incineration if practicable).

(Signed) GEO. M. STERNBERG,
Surgeon-General, U. S. A.

We have now to inquire why, with our precise knowledge as to the etiology and means of prevention of typhoid fever, this infectious disease prevailed to such an extent in many of our camps during the first four or five months of the late war.

The reasons are apparent, and even in the light of our recent experience I am not sure that under similar conditions we could avoid similar results. Sanitarians generally are familiar with the difficulties attending their efforts to restrict the ravages of infectious diseases in towns and cities. They have to contend with the ignorance and reckless indifference of a large proportion of the population, with the ignorance and mistaken parsimony of legislative bodies, and to some extent with the negligence or perfunctory performance of duties assigned to them by agents of the health department, often appointed as a reward for political services, rather than on account of their special fitness for the work. Perhaps it was too much to expect that typhoid fever should be excluded from our camps, unprovided with sewers and occupied by new levies of troops, having for the most part inexperienced officers both of the line and in the staff departments. The medical officers of regiments were appointed by the governors of States, and as a rule were competent professionally, but they were called upon to assume new responsibilities for which they had no special training. Unfortunately, hygiene and practical sanitation are subjects which receive little attention in our medical schools or from physicians and surgeons engaged in the practice of medicine. But even in those cases in which the regimental surgeon was fully aware of the importance of camp sanitation and urgent in his sanitary recommendations, he was unable to control the sanitary situation unless the regimental and company officers enforced the necessary measures for protecting the health of the command. And just here is the fundamental difficulty when we are dealing with new levies of troops. The officers and enlisted men of our volunteer regiments were as a rule intelligent, patriotic and brave, but they were not disciplined. Each man was in the habit of judging for himself and of acting in accordance with his individual judgment. Discipline consists essentially in an unquestioning obedience of orders from those having proper authority to give them. Trained officers can not at once establish discipline among untrained troops, and when both officers and enlisted men are without military experience it is evident that, with the best material, time will be required for the establishment of discipline. And in the absence of discipline it is impracticable to enforce proper sanitary regulations in camp. The surgeon-general may formulate sanitary regulations, and the general commanding an army corps or a division may issue the necessary orders, but in the absence of discipline these orders will not be enforced. A reckless recruit will drink the water which has been condemned as unsafe, and at night will defile the ground in the vicinity of his tent rather than visit the company sink, which, possibly is in a disgusting and unsanitary condition because of a failure to carry out the orders to cover the surface of excreta "with fresh earth, or quicklime, or ashes, three times a day."

The difficulty in controlling the sanitary situation, even when under the supervision of an experienced medical officer of the regular army, is illustrated by the following extract from a personal letter to the surgeon-general, referring to one of the camps occupied by volunteers who had returned from Cuba to be mustered out of service. Colonel Greenleaf says: "I have never had a more trying time than during the past two weeks in efforts to keep the camps reasonably clean. The approach of the muster-out period made officers and men equally indifferent to ordinary clean-

liness, and without the co-operation of the quartermaster their camps would have been quickly untenable. We have had to hire civilians to clean the latrines, remove their contents, the garbage, clean the camp streets, and finally to stay on duty at the latrines and cover excrement as it was deposited! Orders, written and verbal, requiring the soldiers to do anything in the way of police were repeatedly issued but were totally disregarded, and the sinks and kitchens were soon infected with such swarms of flies that I felt sure there must be an outbreak of disease."

New levies of troops are especially subject to typhoid fever and other infectious camp diseases, not only because of a lack of discipline and consequent difficulty in the enforcement of necessary sanitary regulations, but also because the individual soldiers are very susceptible to infection, owing to their age, the abrupt change in their mode of life, the exposure and fatigue incident to camp life, and last but not least, their own imprudence as regards eating, drinking, exercise, etc. The trained soldier has not only learned the lesson of obedience to orders, but has learned how to take care of himself in the field. He will carry a canteen of boiled water or tea rather than trust to luck and drink any water at hand when he is thirsty. He has learned to control his appetite within moderate limits, and when issued rations for five days does not suffer from hunger on the fourth and fifth as a result of extravagant consumption or waste on the first and second days of the period for which he has been rationed. He takes advantage of opportunities for bathing, and washing his underclothing; and when his blankets or outer clothing are unavoidably wet he hastens to dry them in the sun or by a fire at the earliest opportunity.

The value of experience and special training is recognized in all departments of human activity, and the military calling furnishes no exception to the general rule. This applies to the staff as well as to the line, and the medical staff is no exception. When, therefore, I say that the evils resulting from neglect of camp sanitation during the earlier months of the war were to some extent due to the inexperience of the regimental surgeons, I am not reflecting upon the professional qualifications of these gentlemen, but am simply stating a fact. I desire to say, at this point, that many of these regimental surgeons showed a decided aptitude for the service, and made themselves familiar with their various duties as medical officers within a comparatively short time. As a rule they have been assiduous in the care of the sick, and professionally they have been fully the equals of the average doctor in the sections of the country in which their regiments were raised. Indeed, in many instances they have been men who had attained distinction in their own State or even a national reputation.

There has been no failure on the part of the medical department of the volunteer army to accomplish all that could have been reasonably expected of it, but without doubt an adequate number of thoroughly trained medical officers could have done much at the outset of the war in the way of preventing the introduction and extension of typhoid fever in our camps, and in organizing and administering field hospitals, ambulance companies, etc.

Want of discipline and inexperience on the part of officers and enlisted men, together with the apparent emergency which caused them to be brought together in large camps in great haste and before proper preparation could be made for their reception and the supply of their many wants, were the fundamental, and to a large extent unavoidable, causes of the extension of typhoid fever in our camps. But the first step in the development of an epidemic of an infectious disease is the introduction of the specific germ to which it is due. Unfortunately, typhoid fever is endemic in nearly all parts of the United States, and when a thousand men are brought together from any section, there is a fair chance that one or more of them are already infected with this disease. Unless these cases are recognized at the very outset the camp site is liable to be contaminated by typhoid excreta, and the bacilli, through the agency of flies or in a desiccated condition carried by the wind, effect a lodgment on food being prepared in the company kitchens, and thus find their way to the alimentary tracts of susceptible individuals.

The attention of the profession has been largely attracted to the propagation of this disease through contamination of the water-supply, and to the distribution of the typhoid bacilli by the milkman, and there has perhaps been a tendency to overlook other modes of infection, which, in the absence of sewers and under conditions such as existed in our camps during the first months of the war with Spain, were even more important. It is evident that one or two unrecognized cases might be sufficient to inaugurate an epidemic in a regimental camp, and as a matter of fact the disease has prevailed in nearly every camp in the country which has been occupied for a period of a month or more. In many cases it was brought to our large camps from the State camps where the regiments were mustered into service.

And now, in order that the "sanitary lessons of the war" may not be lost sight of, and may be made available hereafter if we should again have occasion to assemble a large army on short notice, I consider it my duty to speak plainly with reference to one of the principal causes of the epidemic prevalence of typhoid fever in our camps. As a rule this disease was called by some other name by the medical officers, on duty with regiments, who first saw the cases. Usually it was assumed to be malarial fever, and was treated as such until the patient became so sick that it was found necessary to send him to the division field hospital or to a general hospital. This general statement is based upon the carefully made investigations of a board of medical officers appointed on my recommendation, made in the following letter:

SURGEON-GENERAL'S OFFICE,

WASHINGTON, Aug. 17, 1898.

To the Adjutant-General of the Army.

Sir:—I have the honor to request that a board of sanitary experts may be constituted for the purpose of visiting the various camps within the limits of the United States, and making a searching investigation with reference to the cause of the extensive prevalence of typhoid fever in many of these camps. The board to receive detailed instructions from the surgeon-general of the army, and to make a full report as soon as practicable after the completion of their investigations.

I would also recommend that this board be directed, while pursuing their investigations, to call the attention of the proper authorities to any insanitary conditions existing at the camps visited by them, and to make recommendations with a view to their prompt correction. I recommend the detail of the following medical officers for this duty: Major WALTER REED, Surgeon U. S. A., Major VICTOR C. VAUGHAN, Division Surgeon U. S. V., Major EDWARD O. SHAKESPEARE, Brigade Surgeon U. S. V.

(Signed) GEO. M. STERNBERG,
Surgeon-General U. S. A.

In a paper read by Major Victor C. Vaughan, at the meeting of the Association of American Physicians held in Washington, D. C., early in May, which paper may be regarded as a preliminary report of the board, the following statements are made:

We had not finished our first day's work at Camp Alger before we saw that one factor in the problem must be thoroughly dealt with before we could hope to reach a satisfactory solution. Fortunately, we promptly took steps to acquaint ourselves with this factor. It can not be denied that scientific medicine would have gained much had this factor been provided for at an earlier date. I refer to the question of scientific diagnosis of typhoid fever. In the division hospital at Camp Alger we found most of the febrile cases diagnosed as malarial. We believed that they were typhoid fever, but the surgeon in charge had diagnosed them malaria. We requested that competent men properly equipped for making blood examinations for the malarial plasmodium and the Widal test, should be sent to each of the larger camps. The surgeon-general acted promptly on this suggestion. Drs. Gray and Carroll, of the Army Medical Museum, went to Camp Alger for this purpose. Subsequently Dr. Carroll continued this work at Jacksonville. Dr. Dock, of the University of Michigan, made investigations at Chickamauga, Knoxville and Meade. Acting Asst. Surg. Craig also spent several weeks in making blood examinations at Sternberg Hospital, Chickamauga Park. Dr. Curry, acting asst.-surg. at Fort Myer, has made many hundreds of blood examinations on sick soldiers sent to Camp Alger, Jacksonville and other camps. As a result of the work done by these men we are able to state that malaria was a very rare disease among those troops who remained in the United States.

To summarize concerning the so called protracted malarias reported by the regimental surgeons, I will say that, in my opinion, practically all of these were typhoid fever, and the following are my reasons for this opinion:

1. The uneven distribution of the so called malaria among regiments encamped side by side gives cause to suspect that these cases were not malarial.

2. Some of the surgeons who failed to record their cases as typhoidal, state in their comments that typhoid fever prevailed in the regiments. . . .

3. The results of several hundred blood examinations showed that malaria was a very rare disease among the troops that remained in the United States.

4. Malaria as it exists in this country is easily controlled by mild doses of quinin. All the so called protracted malarias in our camps were treated with large doses of quinin and were not improved thereby. Consequently, we must conclude that the diagnosis given these cases was erroneous.

5. The mortality of the so called protracted malarias corresponds with the mortality of typhoid fever and furnishes most positive proof that these cases were not malarial.

When we began to study the regimental sick reports we found that in order to obtain satisfactory information, we must endeavor to ascertain how many cases of typhoid fever there were in each regiment, and it soon became evident that the regimental sick reports did not give this information. Of two regiments in the same brigade one had more than 200 cases of typhoid fever, as shown by the regimental reports; while the other regiment on like evidence had only two cases, but the records of the second regiment show more than 200 cases of protracted malaria, and these furnished a mortality as high as that of the typhoid fever in the first regiment. For the reasons already given, we have included all the protracted malarias among our list of typhoids. It may be asked how long we have considered it necessary for a so-called malaria to run in order to make it a probable typhoid. In answer to this I will state that we have regarded all so-called malarias of ten days or more in duration as possible cases of typhoid fever. We think that the great rarity of true malaria and the readiness with which these rare cases have yielded to quinin, and the fact that quinin was so generally administered justifies us in this conclusion. Practically, however, the number of doubtful cases is exceedingly small.

Typhoid fever was not only diagnosed malaria, but it was covered up by many other names. In one regiment the death-rate from indigestion amounted to 15 per cent. of the completed cases. In another regiment at Chickamauga dengue was a frequent diagnosis of many cases which undoubtedly were typhoid fever. . . .

The mode of origin and spread of typhoid fever in our camps is illustrated by a recent epidemic in the camp of the 8th Cavalry at Puerto Principe, Cuba. Major Walter Reed, surgeon U. S. A., was sent at my request to make a special investigation with reference to the origin of this epidemic. The following quotation from his report shows that, as usual, this epidemic had its origin in a failure to promptly recognize the disease, and a consequent failure to disinfect excreta and to move the troops from the infected camp site:

The total number of cases of typhoid fever that had occurred to date was reported by the regimental medical officers as 103, with 24 deaths. Taking the average mortality of this disease in military camps, I am of the opinion that not less than 250 cases of typhoid fever occurred in the 8th Cavalry during the epidemic.

To sum up briefly the occurrence of typhoid fever in the 8th Cavalry, I find that the disease was imported by this regiment into its Cuban camp, but was mistaken by the various medical officers on duty with the regiment for malarial remittent fever, until the epidemic had reached serious proportions; that it was clearly not due to water infection, but was transferred from the infected stools of patients to the food by means of flies, the conditions being especially favorable for this manner of dissemination by reason of the close proximity of the picket lines to mess-tents and latrines. I also find that the lax methods of disinfection of stools and clothing of patients in hospital were additional sources of infection.

I find here a repetition of the same story of mistaken diagnosis with regard to the character of camp fevers that occurred in every military camp in the United States last summer, and the same absence of any evidence pointing to the contamination of the drinking water.

This failure to recognize typhoid fever during its earlier stages is an error of diagnosis which was made on a very extensive scale during the Civil War, has been made on an equally extensive scale by surgeons of the British army on duty with troops in India, and is still being made by a majority of the practitioners of medicine in certain parts of our own country.

The fact that enteric fever often has an intermittent or remittent character has been pointed out by many authors and was referred to in the writer's work on "Malaria and Malarial Diseases," published in 1884, as follows:

Probably one of the most common mistakes in diagnosis, made in all parts of the world where malarial and enteric fevers are endemic, is that of calling an attack of fever, belonging to the last named category, remittent. This arises from the difficulties attending a differential diagnosis at the outset, and from the fact that having once made a diagnosis of remittent, the physician, even if convinced later that a mistake has been made, does not always feel willing to confess it. The case therefore appears in the mortality returns if it prove fatal, or in the statistic reports of disease, if made by an army or navy surgeon, as at first diagnosed. Quite as frequently, perhaps, the physician remains convinced that his first diagnosis was correct, inasmuch as the fever was decidedly remittent in type during the first week, and is puzzled to know why he did not succeed in arresting the progress of the disease by the free administration of quinin. By referring to the literature of the subject he will find ample support for the view that remittent fevers are likely to assume a continued form, and that patients suffering from malarial fevers of a remittent or continued type frequently fall into a typhoid condition. It is therefore, not surprising that mistakes are frequently made, especially when we remember that during the first week typhoid has a decidedly remittent character, quite independently of any malarial complication, and that the periodic fluctuations of the pyretic movement are still more pronounced when it occurs in a malarial subject, i.e., one who has suffered frequent attacks of periodic fever. Moreover, there are undoubtedly cases of enteric fever of so mild a form that all of the characters commonly relied upon for making a diagnosis are wanting, and these cases of typhoid poisoning may be complicated by the most decided evidences of malarial poisoning when the case occurs in a malarious region, or in an individual who has been recently exposed in such a region. . . .

Dr. Geo. B. Wood, in his "Practice of Medicine," (ninth edition), commences his article on enteric fever as follows:

"This is a common febrile affection, presenting a considerable diversity of symptoms, yet having, in general, a certain recog-

nizable character, and probably constituting, in all its forms, one and the same disease. It is the ordinary endemic fever of continental Europe, and of those portions of the United States where miasmatic or bilious fevers do not prevail, and is more or less mingled with the latter within their own special limits."

On another page Dr. Wood says:

"In some instances the disease presents no other symptoms than those of a moderate fever, with the characteristic phenomena of a slight diarrhea or tendency toward it, some meteorism of the abdomen, and perhaps a few rose-colored spots. The tongue remains soft, moist and whitish throughout; there is no vomiting, no considerable nervous disorder, no great prostration; in fine, none of those peculiar symptoms usually denominated typhus. The disease runs its course in two or three weeks, sometimes even in less time, and then subsides spontaneously, leaving no unpleasant effects. Such cases are often mistaken for miasmatic remittent, especially as they not infrequently have a daily remission and exacerbation of the febrile symptoms."

There can be no doubt that this mistake in diagnosis, which, according to Dr. Wood, was often made at the time he wrote—more than twenty-five years ago—is a very common one at the present day, notwithstanding the very definite statement of our highest medical authority that a fever presenting the characters above given is enteric, and not malarial. Within the scope of the writer's personal observation cases corresponding exactly with the description above given by Dr. Wood have been pronounced malarial by well informed physicians, in and out of the army, in various parts of the country.

It is true that the diagnosis is commonly made, not from a complete clinic history of a case, but during the first week of its progress, when an exact diagnosis is, no doubt, in many instances impossible.

Speaking of the so-called typho-malarial fever in the work above referred to, I say:

This term, coined by Dr. Woodward in 1862, served a good purpose during our Civil War, as under this heading a large number of cases of typhoid fever were included, which in its absence from our nosologic tables, would inevitably have fallen under the denomination "remittent fever." The term can not, however, be sustained upon scientific grounds, for typho-malarial fever is confessedly typhoid fever. . . .

Wilson, in his admirable "Treatise on the Continued Fevers,"[2] says in his article on "Enteric or Typhoid Fevers:"

"The atypic or imperfect forms constitute in most epidemics a large proportion of the cases, and when the attention of physicians is more closely turned to the study of enteric fever from an etiologic as well as from a clinic standpoint, they will be found, I believe, to be much more common where the disease is endemic than has usually been thought. The cases are partly due to mild infection, or to use an expression already employed in this work, in speaking of other fevers, the smallness of the dose of the fever producing principle; partly to an imperfect susceptibility on the part of the patient."

In a paper "On the Mild Forms of Continued Fever which Prevail in Washington,"[3] Dr. W. W. Johnston says:

"The facts properly classified and studied in their mutual relations lead inevitably to the conclusion that there is no justice, but positive error, in affixing the term 'malarial' to all negative and doubtful cases of continued fever, as is the habit in diagnosis whenever the malarial and typhoid disease appear side by side."

This failure to recognize typhoid fever, especially in its earlier stages and in its milder manifestations, is not peculiar to American physicians, but has occurred in all parts of the world where the two diseases prevail in the same area. In India for many years the British medical officers denied that typhoid fever existed as an endemic disease. In my work from which I have already quoted, I say:

The following quotations from the recent work of Sir Joseph Fayrer show the enormous mortality in India from "fever," attributed in a general way to malaria, and the marked influence on the death rate of that most potent factor, scarcity of food, to which the adynamic character of malarial fevers is frequently due in that populous country:

"Let us now speak of the extent to which fever prevails, and some of the reasons why it does so. Official records afford proof that it causes an amount of sickness and mortality that is hardly credible, and in some years almost challenges comparison with the black death which ravaged Europe in the fourteenth century and destroyed a fourth part of the whole population. The registered deaths from all causes in India in the year 1879 were 4,975,042; cholera accounting for 270,552; smallpox accounting for 194,708; bowel complaints accounting for 250,173; fevers accounting for (out of a population of 187,105,833) 3,564,035.

"Let us look at the statistics of fever prevalence as illustrated by the sanitary reports and returns of hospitals in Calcutta.

"The records of six of the principal Calcutta hospitals show that the number of cases diagnosed as 'remittent fever' greatly exceeded the number recorded under the heading 'typhoid or enteric fever,' being in 1880, 926 of the former to 8 of the latter. Professor McConnell, who obtained the statistics for Fayrer, remarks: 'A comparison of these tables is very interesting, as showing the relative frequency of typhoid and remittent fever in various years, these being the two kinds of fever often so difficult during life to differentiate.'"

As an example of the same confusion in diagnosis on the continent of Europe, I again quote from my work on "Malaria and Malarial Diseases."

Naples fever.—Dr. Borelli,[4] professor of medicine in the University of Naples, has given a very interesting account of the so-called Naples fever, which by many is ascribed to malaria. According to this author, cases of true malarial infection, of well-pronounced type, are rare in the interior of Naples, whereas the so-called "Naples fever" prevails most extensively in the central portion of the city. The opinion is expressed that typhoid infection is at the root of this form of fever, which exhibits every grade of violence from the mild and abbreviated forms, to which the name febricula is given, to complete and relatively severe typhoid. In all of the varieties intermittence is a symptom repeatedly observed. Dr. Borelli says that if the febrile intermittence depended on a malarial element, the salts of quinin ought to cure it rapidly, yet they invariably fail, and remarks further that: "In paludal infection, when the fever assumes a quotidian type, each fresh access almost invariably begins during the forenoon; whereas in intermittent typhoid, the type, although quotidian, has an evening rhythm—that is to say, the exacerbation occurs in the afternoon or evening, so that in that respect it resembles all those spurious intermittent fevers which accompany the other diseases that I have mentioned—tuberculosis, caseous inflammation of the lungs, chronic inflammation of serous membranes, pyemia, etc." We may remark that, in general, all forms of septic poisoning give rise to fevers having an intermittent or remittent type.

The differential diagnosis of typhoid and malarial fevers can be made at an earlier date and with much greater certainty by a microscopic examination of the blood and the application of the Widal test than was practicable before the discovery of the malarial parasite and of the specific agglutinating action of blood serum from a typhoid case upon a culture of the bacillus. But these scientific studies are so recent that the profession generally still depends upon specially trained experts for their application to the diagnosis of doubtful cases. It is to be hoped, however, that the time is not far distant when every qualified practitioner of medicine will be prepared to apply these invaluable means of diagnosis.

Finally, the principal lessons to be derived from our recent experience may be stated as follows:

A trained medical corps hardly adequate for an army of 25,000 men can not control the sanitary situation when this army is quickly expanded to 250,000. Physicians and surgeons from civil life, however well qualified professionally, as a rule, are not prepared to assume the responsibilities of medical officers charged with administrative duties and the sanitary supervision of camps. The proper performance of such duties can not be expected from a physician without military training or experience, no matter how distinguished a position he may have held in civil life.

Courage and patriotism on the part of line officers

[2] James C. Wilson: A Treatise on the Continued Fevers. New York, 1881.

[3] American Journal Medical Sciences, Philadelphia, October, 1882.

[4] Medical Times and Gazette, London, July 8, 1876.

and enlisted men can not take the place of knowledge and experience; new levies of troops are, as a rule, ignorant of the first principles of camp sanitation, and reckless as to the consequences of their neglect of prescribed sanitary regulations. Therefore, training and discipline are essential factors in the preservation of the health of soldiers in garrison or in the field.

The value of the aphorism, "in time of peace prepare for war," has received additional support. This preparation should include a corps of trained medical officers larger than is absolutely necessary for the army on a peace basis, and systematic instruction in military medicine and hygiene for the medical officers of the national guard as well as for those of the regular army; also instruction of line officers in the elements of hygiene and especially in camp sanitation. It should also include the establishment of camping-grounds in various parts of the country, having an ample supply of pure water, a proper system of sewers, etc. If our volunteers could have been assembled in such camps during the late war a saving in lives and money would have resulted which would without doubt have demonstrated the economy of such preparation for war in time of peace.

SURGERY OF THE TRACHEA.*

TWO UNUSUAL CASES.

BY W. S. JONES, M.D.,
Clinic Professor of Laryngology, Jefferson Medical College, and
W. W. KEEN, M.D.,
Professor of the Principles of Surgery, and of Clinic Surgery, Jefferson Medical College.
PHILADELPHIA.

CASE 1.—ATTEMPTED SUICIDE BY CUT THROAT FOLLOWED BY COMPLETE CLOSURE OF THE TRACHEA BY A DIAPHRAGM ABOVE THE CANULA, PERSISTING FOR THIRTEEN MONTHS; BREATHING THROUGH THE LARYNX AND SPEECH ENTIRELY IMPOSSIBLE. OPERATION: DISSECTION OF THE DIAPHRAGM; SUTURE OF THE TRACHEA; RESTORATION OF NORMAL BREATHING AND VOICE.

History by Dr. Jones.[1]—J. W., 30 years of age, a laborer, on Nov. 12, 1896, in a fit of despondency, attempted suicide by making a large cut in his throat with a penknife. He penetrated the trachea about the second or third ring, twisted the blade about and cut up and down an inch or more. He was taken to a hospital, where the wound was dressed, but not closed, nor was a tube inserted. One week later it was noticed that he could not breathe through the mouth when the wound was closed by pressure. It was deemed necessary to introduce a tracheotomy-tube; an anesthetic was given him, the tube inserted, and the wound stitched around it. Two weeks later, the surgeon attempted to pass a tube through the trachea and larynx from the tracheal wound, but did not succeed, the part being shut off. He was then sent home to allow the wound to heal before further operative interference was instituted. Nothing further, however, was done, and he was sent to me. The condition of the larynx was as follows: The right side was drawn slightly downward, the right vocal band was in the median line and immovable, being fixed by scar tissue beneath it; the left side was normal in situation, the cord was freely movable and could be brought to the middle line perfectly. The entire left side was free for three-fourths of an inch below the vocal band, while the right side had a band of cicatricial tissue just below the cord, which extended downward the same distance, and then spread out to the other side, completely occluding the trachea. The surface of the membrane was smooth and the lowest point was near the center. From below, the trachea was entirely closed above the tube, and the cicatrix was about one-half inch in thickness.

Operation by Dr. Keen.—When I first saw the man I was able easily to verify the facts observed by Dr. Jones. The patient had never breathed through his larynx nor had he spoken a word since the accident. He was still wearing a tracheotomy-tube. On removing this, one could look into the trachea very readily and see that the diaphragm observed by the laryngoscope below the glottis was not a horizontal one, but curved (Fig. 1), precisely fitting the curve of the tracheotomy-tube. In breathing, all the air passed through the tube. Naturally Dr. Jones and I first discussed the question whether this membrane could be punctured by an instrument passed through the glottis. If so, the opening could then be dilated and after the caliber of the trachea was restored, the tracheotomy opening could be closed. After considering this method of operation, we decided that it would be working too much in the dark in too narrow a space, and that it would be better to attack the diaphragm from in front. The result proved that this was a wise precaution.

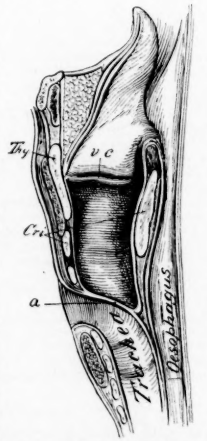


FIG. 1.—The apparent relation of the diaphragm (*Thy.*). Thyroid cartilage; (*Cri.*) cricoid; (*v.c.*) vocal chords; (*a*) the site at which I supposed an incision would open into the larynx and enable me to dissect away the diaphragm.

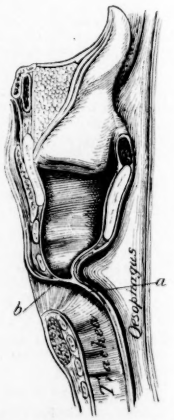


FIG. 2.—Showing the actual relations of the diaphragm and the forward displacement of the anterior wall of the esophagus. (*a*) The opening first made by error into the esophagus and at once closed; (*b*) the second opening entering the larynx, from which I dissected away the diaphragm.

The operation was performed on Dec. 15, 1897. I made an incision in the middle line from the tracheotomy opening up to the cricoid cartilage. This incision was very cautiously carried downward in the middle line of the obliquely curved diaphragm, and a little above the middle of the incision in the diaphragm a small opening was quickly made. (Fig. 1, *a*). Just at that moment, however, he vomited, and through the opening there escaped frothy mucus tinged with bile. This showed that instead of opening through

*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] From a former report in the JOURNAL, March 12, 1898, p. 697.

the diaphragm into the upper air-passage my opening communicated with the esophagus. It was clear, therefore, that the esophagus, by contraction of the adhesions, had been drawn forward and that my incision was at *a* in Fig. 2. It was important, therefore, to close this very small opening at once. I dissected back the mucous membrane from its borders and then closed it under the mucous membrane, as if it had been an opening in the intestine, with two series of Lembert sutures and then sutured the mucous membrane over them. I next made another small opening about 7 or 8 mm. above it, anterior to the opening which I had just made into the esophagus (Fig. 2, *b*), and found to my satisfaction that I had opened into the upper air-passage. A pair of curved hemostatic forceps passed into the mouth readily protruded through the opening in the diaphragm. I now dissected out the diaphragm completely. As soon as this was done the anterior wall of the esophagus, which had been drawn forward by the contraction, fell backward into its normal position and left in front of it a trachea completely divided into an upper and a lower portion (Fig. 3). The two ends of the trachea

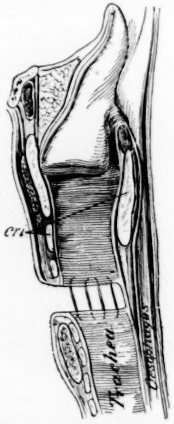


FIG. 3.—Showing the anterior wall of the esophagus fallen back into its normal position, and the complete severance of the trachea when the diaphragm had been dissected away. The lateral sutures uniting the trachea are indicated.

were now sutured together by four sutures on each side and two posteriorly. I found that the lower trachea was easily approximated to the upper, having fallen downward partly by its weight and partly by retraction, as if it were a spiral spring. The small anterior opening left was closed by three sutures. All the sutures were of silk. The sutures uniting the two ends of the trachea were passed completely through the thickness of the trachea, except posteriorly, where I was careful not to penetrate the esophagus. As I was fearful that there might be swelling, which would interfere with respiration and destroy the good results thus far obtained, or that some unforeseen complication might arise in so unusual a case, I continued my incision in the trachea below the site of the old tracheotomy opening, and inserted the tube into the trachea 2 cm. lower down. This made sure of easy breathing while the cicatrization of the recent tracheal wound above it was going on. If, then, the upper part of the operation-wound healed, the simple removal of the tracheotomy-tube at a suitable time would be followed by complete spontaneous closure of the opening

The entire operation was done with the patient in the Trendelenburg posture to prevent aspiration of wound fluids into the lungs, and after he was placed in bed, the foot of the bed was raised about eighteen inches. He lay without a pillow for the same reason. At the end of three days this inclined posture was abandoned. The nose and also the throat were sprayed every two hours with a boric acid solution, as they and the tracheotomy opening had been for two days before the operation. For three days he was fed entirely by the rectum in order to prevent motion of the larynx in deglutition. His temperature only once exceeded 100. After three days there was so little soreness that not only was his bed made level, but he was fed by the mouth, and on the fourth day he was allowed to be out of bed. On the sixth day I removed the tracheotomy-tube and found that he could breathe freely and speak audibly. I did not, therefore, replace the tube. The only dressing applied to the wound was gauze moistened with a bichlorid solution, 1-2000, sterile gauze being packed gently around the tracheotomy-tube and covering the opening of the tube. After the sixth day a simple dry gauze dressing with an apron of gauze hanging down over the second tracheotomy opening (from which the tube had already been removed, so as to protect it from dust, was used. The operation wound healed by first intention throughout. The tracheotomy wound, as soon as the tube was removed, gradually contracted and was entirely closed at the end of six weeks.

The sutures in the wound never gave him the slightest trouble. Only one of them was ever observed by the laryngoscope. His voice was slightly hoarse, but not to such a degree but that one would think it was his normal speech.

The present case, so far as we have been able to learn, is almost if not quite unique. We have seen a number of cut throats, but in those that recovered we have never seen any such membrane form. It must have been a result of the contraction following the extensive laceration, which drew the anterior wall of the esophagus over the curved upper surface of the tracheotomy-tube, for it exactly fitted its contour. Had an attempt been made to open it from above by any sharp cutting instrument, there would have been great danger of entering the esophagus, and one would not have had the facility, or even the opportunity, of closing it with ease. It has occurred to us that possibly if a blunt instrument, like a uterine sound, had been passed by the mouth between the vocal bands and made to bulge the membrane from above, one might have cut with a little more security and certainty through the diaphragm. On the whole, we are inclined to think that the mode of operation, by attacking it from the outside rather than by an intralaryngeal operation, was a fortunate one.

In the suicidal attempt the right recurrent laryngeal nerve was probably divided, or at least wounded. This accounts for the paralysis of the right vocal chord, which persists, and has resulted in a moderate hoarseness. At the present time, seventeen months after operation, his voice is almost normal and nearly free from hoarseness. The right chord is still paralyzed, the left freely movable; a slight narrowing of the lumen of the trachea at the site of the operation

is observed, but not appreciably sufficient to obstruct the breathing.

Föderl has a very excellent paper on resection and suture of the trachea, in which a number of cases are reported, but none of them at all resemble this. The bayonet-resection of Colley was not adopted, since it was found that the parts could be so readily approximated and the adjustment seemed to be perfect. Silk sutures were used, and yet reluctantly. But we thought that in order to get the narrow edges of the upper and the lower portions of the trachea to unite satisfactorily they must be held in place for a considerable time, which catgut would not do. Probably silk would not only hold them in position for a sufficient length of time to secure firm union, but if any of the sutures cut or ulcerated their way through into the trachea they would be readily expectorated. The result more than justified our hopes, for the silk was scarcely any source of irritation.[3]

CASE 2.—STRICTURE OF THE TRACHEA; SUCCESSFUL OPERATION BY DIVIDING THE TRACHEA LONGITUDINALLY, REFLECTING THE MUCOUS MEMBRANE, EXCISION OF THE STRICTURE, AND IMMEDIATE SUTURE OF ENTIRE WOUND; UNION BY FIRST INTENTION.

History by Dr. Jones.—Miss E. K., aged 21 years, of Smithville, N. J. Her parents, one brother and one sister are living and in good health. At the age of 7 she had measles and chickenpox, malaria at 8, and whooping-cough at 9. Since having the latter she has had more or less catarrhal inflammation of the nose and throat. Her menstruation began when she was 14, and is regular. In July, 1895, she sang during the evening, in open air. The following morning there was a little soreness on both sides of the throat at the base of the tongue. In the course of a few days the pain centered at a point immediately above the sternum. There was a tickling sensation which caused paroxysms of coughing. Her condition remained about the same for a month, when, after a visit of two weeks to the seashore, she returned feeling perfectly well. In the autumn of 1896, she noticed a whistling sound in the throat after slight exercise. From November, 1896, to January, 1897, she was kept on a strict milk diet to remedy an indigestion from which she suffered, her general health being in the meantime rather poor. In the spring of 1897, while attending a ball, she experienced great difficulty in breathing, after dancing. Ever since that time, slight exercise has caused considerable dyspnea. In December, 1897, she had an attack resembling spasmodic croup. After this the pain in her throat became more severe, and she had considerable expectoration, the sputa being white and frothy, but containing dark specks. In February, 1899, during the blizzard, she again had an attack of what was supposed to be spasmodic croup. From that time till now she has been suffering constantly from more or less dyspnea, especially marked on exercising. Even quiet respiration produces a slight sound, but after exercising, her breathing is distinctly audible and suggests stenosis of the air-passages at some point.

At this time, she consulted Dr. Jones, who immediately discovered the cause of her trouble. The laryngoscopic examination showed, at a short distance below the vocal bands, a small, nearly round opening (Fig. 4), the diameter of which was about half the distance of the vocal bands from each other. Dr. Jones made several attempts at dilatation, but found that the throat was so irritable that the patient could not endure the procedure. In view of this and the very long treatment which it would require, which was very inconvenient for her, as she did not live in the city, he asked Dr. Keen to see her in consultation with a view to operation. After a careful examination, we reached the conclusion that the stenosis was but a little distance below the cricoid and extended over somewhat more than one ring.

Operation by Dr. Keen.—On March 31, 1899, I made a vertical incision from the middle of the thyroid nearly to the sternum, and was extremely careful to see that every bleeding vessel was tied before opening the trachea. The patient first took chloroform in the horizontal position. As soon as I was ready to open the trachea, I placed her in the Trendelenburg position and then split the trachea longitudinally for about six or seven rings, but found that to get free access to the stricture, it was necessary to split the

FIG. 4.—Appearance of the stricture in the laryngeal mirror.

cricoid. I then placed in the lower part of the incision in the trachea a tracheotomy-tube, and connected it with the chloroform inhaler by means of the inner tube of a Hahn tampon-canula 12 mm. in diameter, fastening the tube in place by disinfected tapes. The outer sponge-covered portion of the Hahn canula was not used. I then found that the upper border of the stricture was at the third tracheal cartilage and extended over the third and fourth and to the upper border of the fifth. The somewhat puckered appearance of the mucous membrane suggested that it might be the result of a local ulcer, though her history scarcely furnished a sufficient basis for such a belief.

I at first thought that I might do a Heineke-Mikulicz operation, but on making the incision and endeavoring to draw the sides apart, I found that the resistance of the submucous tissue was too great. Accordingly I dissected back the mucous membrane as two flaps upward and downward over all the area covered by the stricture. I next dissected out the fibrous tissue. By an unfortunate accident this was lost and so no microscopic examination could be made. During this procedure the sides of the trachea were held

[3] The following papers are of interest in connection with case:
Föderl: Wien. Klin. Woch., 1896, p. 1258.
Fischer: Deutsche Chir., Bd. xxxiv.
Noll: Deutsche Zeitschr. f. Chir., Bd. xxvii.
Schüller: Ibid., Bd. xii.
Colley: Ibid., Bd. xi, 150.
Gussenbauer: Sitz. k. k. Gesellschaft der Aertze in Wien, Jan. 22, 1875.
v. Eiselberg: Deutsche Med. Woch., 1896, No. 22.

apart partly by narrow retractors and partly by two silk sutures, which were held by assistants. These silk retractors served especially well. The hemorrhage was not severe, but was troublesome by obscuring the field of operation. It was sponged away with small pads of gauze. One vessel on the wall between the trachea and the esophagus spurted to such an extent that I tied it with catgut. This I afterward removed and twisted the vessel so as not to have the projection of the knot, which by bulging forward the mucous membrane might interfere with respiration. The wall of the esophagus was exposed at one point. I next sutured the mucous membrane with silk, but in the middle line I could not bring it quite together. A little gap was left there to granulate. The chloroform tube was now removed, and the trachea, which had been already partially sutured, was completely closed by catgut stitches passing through the perichondrium and pre-tracheal tissues. The skin was then closed with silkworm gut. The whole operation required about an hour and twenty minutes.

Her temperature on the afternoon of the operation rose to 100.4 F. After that it was never above 100, and by the second day had reached 99. The external sutures were removed a week after the operation, primary union having taken place without any untoward result.

The foot of the bed was kept elevated for forty-eight hours. On the third day after the operation she was on the lounge; on the fourth day she sat up in a rocking chair, and after that got quickly about. She was perfectly able to travel at the end of a week, but in consequence of the fear of possible complications, she remained in the hospital four days longer, leaving on the eleventh day. At this time Dr. Jones and I both examined her throat and found its lumen entirely normal. One silk suture could be seen partially loose when she went home. This annoyed her very little indeed, there being almost no cough. In fact, excepting for the soreness in swallowing, she suffered almost no pain whatever. For two days she was nourished by the rectum and then small quantities of liquid food were given her. On the fifth day she was able to take solid food. Her voice was never in the least affected.

Laryngoscopic examination on May 23, 1899, two months after operation, showed slight redness of the vocal chords. The tracheal stricture showed no tendency to return. Her voice and breathing are normal.

The method adopted in attacking this possibly unique case—for we have not found any similar one recorded—was most satisfactory. The easy access to the stricture; the dissection of the mucous membrane from the surface of the stricture, and its replacement and suture; the avoidance of any tracheotomy; the advantages of the Trendelenburg posture, and the primary union obtained, are the points upon which we would lay the most stress.

THE managers of the large Mount Sinai (Hebrew) Hospital, Lexington Avenue, corner of Sixty-sixth Street, New York City, have decided to move farther up town, and some time since purchased a site consisting of thirty city lots, between Fifth and Madison avenues and One Hundredth and One Hundred and First Streets. The cost of the land was $400,000, and the estimated expense of the new buildings is $1,000,000.

CHRONIC MIDDLE-EAR SUPPURATION.*

WITH PERMANENT RETROAURICULAR OPENING; RADICAL OPERATION.

BY E. B. GLEASON, M.D.

CLINIC PROFESSOR OF OTOLOGY IN THE MEDICO-CHIRURGICAL COLLEGE, PHILADELPHIA.

I present two cases that have been operated on, one two and a half, the other one and a half weeks ago, by the method of Professor Passow of Heidelburg. In each the healing process is far advanced and there is now little doubt of a speedy cure of the chronic middle-ear suppuration for which the operation was done. The cases are of special interest because they represent the first operations of this kind that have been done in Philadelphia.

In Passow's operation the radical mastoid operation is performed in the usual manner as far as the bone chiseling is concerned. A right-angled slit is then made in the cartilaginous meatus and the quadrilateral flap so formed is stitched into the bone cavity to form a skin covering for its ceiling. A large quadrilateral flap is dissected up from the skin behind the auricle and turned into the bone cavity to form a skin lining for its floor. When these flaps have adhered firmly in their new position and the parts have become comparatively dry, skin grafts are placed on the granulations between the flaps, and under favorable circumstances the whole middle ear with surprising quickness becomes a skin-lined non-secreting cavity. The healthy condition of this skin-lined cavity, its freedom from eczema and dermatitis, are maintained by the free access of air which the permanent retroauricular opening secures. If the object of the radical mastoid operation be to secure such a skin-lined cavity, it would seem that Passow's method would secure it most speedily and certainly.

While the average time required for a cure after the radical operation as performed by various operators is three to four months, the average time required by Passow's method is only eleven weeks, and in a percentage of his cases a cure resulted within four weeks. After the radical operation relapses are by no means unknown, and the attendance of an aurist is required to bring about a cessation of the discharge. Should a relapse occur in a case operated on according to Passow's method, the patient or his friends can readily keep the parts clean and apply sedative or astringent powders.

The objection to the operation is the disfigurement produced by a permanent opening. The opening is, however, not conspicuous, as it contracts during the after-treatment and becomes slit-like in character; only oval or round by pulling the auricle forward. It is possible at any time to close the opening by a simple plastic operation if its presence is disagreeable.

The advantages of the operation are that at all times free access is secured to the middle ear, all parts of which are plainly in view. Until the parts have epidermized, each day after a radical mastoid operation is a critic one, for exuberant granulations may form and adhesions and contractions occur that destroy, to a greater or less extent, the benefit to be derived from the procedure. With a posterior opening such processes are always easily visible and the adhesions can readily be broken down. If necessary, the curette, chromic acid or pressure may be used to bring about the desired result. The great advantage

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of the operation is, however, the free access of air which favors rapid evaporation and prevents the parts being macerated by the secretions which occur from even normal skins and mucous membranes. Such dried secretions and also exfoliations of epidermis and dust can readily be washed or wiped away by the patient or his friends and thus the parts kept in a healthy condition. To maintain healthy skin on any part of the body, freedom from filth and moisture is absolutely necessary.

After a simple mastoid operation, rendered necessary because of caries of the mastoid resulting from acute suppuration of the middle ear, a radical cure with almost or complete restoration of normal hearing may be expected. When, however, mastoiditis occurs in the course of chronic suppuration, the results of a simple mastoid operation are far otherwise. In some cases an apparent cure of the tympanic suppuration is brought about and may persist for years; but under such circumstances the attic and mastoid antrum gradually fill up with cholesteatomatous masses and ultimately, perhaps years after the first, a second mastoid operation is required. Should this consist of a simple mastoid operation, the same process is repeated and a third operation is required; but nature ultimately establishes a cure by means of a permanent retroauricular opening. Through this opening the parts are readily cleansed should a relapse occur, and a cessation of the discharge occurs within a few days or weeks. At the present time there are two or three cases with a history similar to the above, and one with a permanent retroauricular opening resulting from an old mastoiditis that was not operated, that occasionally come to me. If these cases keep their middle ears clean, suppuration does not occur, but if accumulations of dried secretions and epidermis are allowed to accumulate for a year or more suppuration ultimately results, but is very readily cured. It was my experience in the treatment of these cases that first called my attention to the great practical advantages of a permanent retroauricular opening.

For the same reason that a simple mastoid operation in chronic suppuration is usually little more than a placebo as far as a permanent cure of the suppuration is concerned, the same remarks may be applied to the simple removal of the remains of the drumhead and ossicles. If, as I believe, cholesteatomatous masses are the great cause of polypi, necrosed ossicles and continued suppuration, then the relapses into the former condition after a simple removal of the ossicles must be very numerous and an event confidently to be expected. The procedure no doubt does good in enabling the aurist to more readily remove accumulations from the attic as they occur from time to time and thus bring about a more speedy cure when a relapse does occur. If removal of the scute is practiced in addition to removal of the ossicles, the procedure is certainly much more valuable in the treatment of chronic suppuration but still scarcely adequate or likely to be permanently successful. To a less degree these remarks apply to the radical mastoid operation without permanent retroauricular opening. The patient is still unable to keep his middle ear clean and must from time to time apply to the aurist.

The history of the cases is, briefly, as follows: The man had had his ossicles and a large portion of his scute removed in Leicester two years ago. The otorrhea never ceased, although better after the operation. Last fall he came to me with the request that I do a radical mastoid operation. Instead of complying immediately I treated the case for four or five months, but did not succeed in curing the discharge. At the operation the antrum was found to contain cholesteatoma and granulations. The woman was operated on for mastoiditis one year ago last October, in Leeds, England. After the operation she wore a gold-wire tube for six weeks. It became necessary to do a second mastoid operation the following March. Her chronic discharge was not cured as the result of either of these simple mastoid operations. At my operation the antrum was found packed with cholesteatomatous material.

NASAL BACTERIA.*

THE RELATION THEY BEAR TO DISEASE.

BY D. BRADEN KYLE, M.D.

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PHILADELPHIA.

Within the past few years there has been considerable investigation as to the import of bacteria present within the nasal chambers, and the relation of such bacteria as causal factors in disease processes. Opinions differ as to the presence of pathogenic bacteria in the normal nasal secretions and normal membranes. This raises the question as to what constitutes a normal nasal mucous membrane. While the membrane may be normal as to its function, yet the construction of the nasal cavity may be such as to permit of the accumulation of normal secretion within that cavity. This accumulated normal secretion forms a suitable nidus for the lodgment of dust and other irritating materials, which would soon cause local alteration, besides perverting secretion and being nutrient media for the development of bacteria, which are constantly being inhaled and find lodgment in the localized irritated areas. Inoculations from a nasal cavity, in which, as regards structure, anatomic relations, and physiologic functions, the tissue is what is called normal, in the majority of cases will show bacteria present; however, unless the normal secretion has been retained and has undergone some chemic change, it does not form a suitable nidus or medium for the development of bacteria. Another important question which arises is the pathogenesis of the bacteria present. Although of the variety known as pathogenic, they may be non-virulent, and if the mucous membrane is not subjected to some irritation giving rise to lessened physiologic resistance of the epithelial cells, these bacteria do not find a nidus for proliferation and are practically harmless. From my own investigations,[1] which include over two hundred inoculations, I have been unable to draw any definite conclusions; however, the surroundings of the individuals have much to do with the presence or absence of bacteria, as well as the variety, found within the nasal chambers. For example, inoculations made from nasal cavities which presented normal appearances, made under different surroundings, gave entirely different results. Repeated inoculations were made from the same individual, from the nasal mucous membrane, on rising in the morning, after staying in an office or room for several hours, after having been exposed to the street dust, and after hav-

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[1] I have omitted from this paper, on account of the lack of space, the laboratory technic and experiments necessitated by these investigations.

ing attended places of amusement. The results were as varied as though the experiments had been carried on in different individuals. Again, inoculations made from individuals having various forms of catarrhal inflammations of the nasal mucous membrane gave the same varied result; however, in many instances I believe that the bacteria bore an important relation to the inflammatory conditions present, but that their etiologic relation was secondary and not causal, and that before the bacteria found access to the mucous membrane there was some alteration in the epithelial surface, brought about either by external or internal irritants, which lowered the physiologic resistance of the individual epithelial cells. Besides pathogenic bacteria, there are associated varieties of the blastomycetes, which, while not possessing any pathogenic properties, are capable of producing irritation and admit of absorption of saprophytic products. If the nostril is thoroughly cleansed, under the strictest antiseptic precautions, and a pledget of sterilized antiseptic cotton placed within the nose, which in turn is protected by antiseptic measures, in the majority of cases the secreted mucus will be free from bacteria; but from my own experience it is almost impossible to render the mucous membrane thoroughly aseptic. As to the antiseptic properties of the nasal mucus, I am willing to grant that in certain individuals the secretion possesses such properties, depending on the chemic reaction of the secretions—which differs in individuals—and it is largely controlled by the general health of the individual and by constitutional diathesis. In persons with irritated mucous membranes, and with excoriations about the nasal orifice, in which from urinary examination and from testing the nasal secretions, it was found to be decidedly acid, the bacteria present were non-virulent, and where growths were obtained on blood serum, they were feeble and slow of development. This can be explained by the fact that, with few exceptions, pathogenic bacteria require alkaline media. In diseases of the nasal cavities, in which there is accumulation of secretion, as is the case in the various forms of atrophic rhinitis, the bacteriologic examinations present such a variety of bacteria that no special one can be assigned as an etiologic factor. Besides, there are always present the bacteria of decomposition—the saprophytic bacteria; however, in such conditions it must be remembered that the products of these germs are constantly being absorbed from the mucous membrane surfaces, and in many cases may account for some of the ill effects on the general health of the individual, nearly always present in the advanced stage of disease. While the bacteria present may have largely lost their virulent properties, yet with suitable chemic constituents and reaction of the secretion, proliferation of the germ is favored and its normal virulence regained. Accumulated secretion in the nasopharynx and pharynx during sleep is frequently unconsciously swallowed by the patient. This infected material may bring about gastric disturbances, as is shown by the frequent association of gastric lesions with those of the upper respiratory tract; however, this does not explain many of the associated conditions, but often, when such apparent relation exists, the local lesions were induced by and dependent upon some constitutional condition which brought about the lowered resistance on the part of the local epithelial structures.

The bacteria found present on the nasal mucous membranes and in the secretion include many of the pathogenic cocci and bacilli, besides many unclassified non-pathogenic germs. The bacteria most commonly found are the staphylococci or micrococci, especially the staphylococcus pyogenes aureus, citreus, and albus, the micrococcus pneumoniæ (Fränkel), bacillus tuberculosis, Friedlander's bacillus, Klebs-Löffler bacillus, Von Hoffman's bacillus (bacillus of pseudodiphtheria), the bacillus fetidus, Löwenberg's ozena diplococcus, and also various forms of sarcina. Quite frequently the streptococcus is present, although in the majority of instances it was associated with an acute inflammatory process. With this exception, frequently the isolated bacteria were not associated with any special inflammatory condition. The bacillus of diphtheria was found on the apparently healthy mucous membrane, after the individual had been exposed by passing through the diphtheritic wards in the hospital, although there was no associated inflammatory process. Frequently the bacillus of tuberculosis was found present after the individual had been exposed to dusty air of the street, the inoculations being made from the nasal mucous membrane after one-half hour's exposure to the dust. While I do not mean to belittle the importance of bacteriologic investigation, nor the important relation of bacteria to disease, yet I do believe that, in a great many cases of lesions of the mucous membrane of the upper respiratory tract, the part played by the bacteria is purely secondary. If the anatomic structure of the nasal cavities is such as to permit of accumulation of secretions and dust, or the physiologic resistance of the membrane is lowered by constitutional diatheses or organic lesions, the altered and accumulated secretion forms a suitable nidus for bacterial proliferation.

While the virulency of all the germs found present was not tested, yet this was done in a sufficient number of cases to warrant conclusions. Inoculations were made from the anterior nasal chambers, from all parts of the surface from the mucocutaneous junction to the nasopharynx. Fewer germs were found on the convex turbinal surface, especially the middle turbinal, than any other portion of the cavity. More bacteria were found in the atrophic rhinitis, due to contraction, than in any other diseased tissue. This is no doubt due to the fact that the accumulated secretions within the nasal cavity form a suitable nidus for bacterial proliferation. While the results obtained are almost directly opposite to those obtained by Thomson and Hewlett, or Würtz and Lermoyez, yet they to a great extent confirm the results obtained by Park and Wright.

ARM-TO-ARM VACCINATION.*

NASOPHARYNGEAL SYPHILIS A RESULT THEREOF.

BY P. S. DONNELLAN, M.D.

LARYNGOLOGIST TO ST. AGNES' HOSPITAL.

PHILADELPHIA.

The extreme rarity of the transmission of syphilis by humanized lymph, as well as the clinic interest in this case, has induced me to report it. The patient was referred to my clinic at St. Agnes' Hospital on Feb. 20, 1899, by Dr. John P. Mulrenan, to whom I am indebted for the following history:

Charles S. was born April 4, 1885, of healthy parents,

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his father being 22 years old and his mother 19 at the time of his birth. He was a perfectly healthy child and passed safely through the minor ailments of infancy and childhood until he was 5 years old, when he was vaccinated on the right arm by arm-to-arm vaccination. A few months later the submaxillary gland on the same side became enlarged and was poulticed but did not suppurate. In the course of six months the glandular enlargement gradually diminished in size until it was hardly noticeable, but after a brief interval of quiescence, it resumed its previous size and became quite indurated. The enlarged gland was then operated on, a bloody serum but not any pus exuding from the incision, which persistently refused to heal, and gradually increased in size until it became several inches wide and so deep that the inner structures of the neck were quite visible. The boy was then taken to St. Agnes' Hospital where the true character of the disease was recognized, and after three months of local and internal antispecific medication, the wound healed, leaving a serpiginous cicatrix quite characteristic of syphilitic disease.

When he was 9 years of age his parents noticed that he had a peculiarly offensive discharge from both nostrils and from the nasopharynx. Two spots of ulceration appeared on the soft palate above the uvula and perforation resulted. The boy's nose being continually obstructed, his father, who appears to have been somewhat of an amateur surgeon, endeavored to practice one of the fundamental principles of surgery, and having found the cause of the nasal obstruction he proceeded to remove it with a pair of tweezers. This was accomplished with great difficulty, and the removed obstruction was described as resembling on a small scale the wish-bone of a chicken. Two narrow strips of tissue left after the perforation of the soft palate were also removed in the hope of improving the condition of the boy's voice, which had become quite husky.

At the time of his first visit to my clinic the following note was made: The patient is undersized for his age and presents a prematurely old appearance. His nose has the "saddle-shaped" deformity, the nostrils looking directly forward and the bridge deformed. Two horizontal scars are seen on the right side of the neck and are the cicatrices of the submaxillary abscess from which he suffered in his sixth year. His speaking voice is harsh and rasping in character. Examination of the nasopharynx shows loss of both nasal bones with arrest of development of the cartilaginous septum. The turbinals are normal in appearance. There is nothing characteristic in the shape of the teeth nor is any abnormality noticed on the tongue or buccal mucous membrane. The soft palate is partially destroyed and no trace of the uvula remains, the free edge of the remnant of the palate being represented by a crescentic outline. The mucous membrane of the fauces and postpharynx is hypertrophied and reddened. The epiglottis presents the appearance of chronic hyperemia; the arytenoids and ventricular band are similarly affected. The cords are thickened and pinkish in color, and are only imperfectly approximated during phonation. Careful inspection fails to reveal the presence of any cicatrices or spots of ulceration on the cords or laryngeal mucous membrane.

From the history of the case and the clinic appearance of the nasopharynx and larynx, a diagnosis of accidental syphilis caused by arm-to-arm vaccination was made.

Vaccinal syphilis may occur in a variety of ways. The chief source of infection is in the virus taken from one suffering from syphilis. Inoculation may occur through infected lancets, dressings or vaccin points, or by applying the saliva from a syphilitic to the vaccin pustule for the purpose of softening it. In an editorial on "Syphilis and Vaccination," in the *Phila. Med. Jour.*, April 15, the well-established fact is emphasized that every attempt at the direct inoculation of lower animals with syphilis has been a failure, and the contention is made that if the beasts can not have syphilis, it follows they can not transmit it. The use of bovine vaccination when performed under suitable conditions and with proper precautions, is so uniformly successful and so devoid of danger, that the occurrence of cases of vaccin syphilis in the future will be even rarer than heretofore.

REPORT OF TWO INTERESTING CASES.*

BY W. D. TRAVIS, M.D.
COVINGTON, GA.

PECULIAR SEQUELÆ OF MEASLES.

The first case I wish to report is that of Lizzie F., a German, aged 14 months. She was taken sick September 4, and admitted to the hospital three days later with a well-defined case of measles. Her temperature being 104.2 on admission, she was given phenacetin and whisky, and for an annoying cough she was given Stokes' mixture for several days. She was convalescent three days after entrance, but it being customary to keep patients in the hospital in all cases of contagious diseases until desquamation was complete, she remained in the convalescent ward for some time.

On September 26 her temperature rose rapidly to 104.4 degrees, whereupon she was promptly isolated for observation. Her gums were considerably swollen from teething, and a very discrete rose-colored macular eruption was scattered over the body, but was not perceptible the following evening, the temperature having fallen to 99.4. From time to time phenacetin and whisky were given to reduce fever. The cough, which had persisted since the attack of measles, was still present. On October 1 there was a reappearance of the above-mentioned rash, which again disappeared in the evening, to reappear in patches and disappear in the same manner on the 5th. On the 6th the temperature rose rapidly to 106, the cough was dry and more troublesome, and there were crepitant râles in the chest at the lower part of the right lung. On the evening of the 7th the child vomited twice, and though the fever was high, it did not seem to render the patient uncomfortable. The first stage was followed by that of consolidation. Strophanthus and digitalis were added to the treatment, and sponge baths given on the 9th, 10th and 11th.

The condition of the bowels had been good and the patient had passed a sufficient quantity of urine up to the 12th, when there was no movement from the bowels and no urine passed. She was given nitroglycerin, concentrated solution of Epsom salts and hot baths. These rendered her more comfortable, but there was no urine passed until the morning of the 13th, when she passed only a small amount. Early in the afternoon of the same day her bowels acted and she passed a considerable quantity of urine and was perspiring freely. Râles had reappeared in her

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chest and her cough seemed quite painful. From this time until the 19th her bowels were regular and she passed a sufficient quantity of urine. On the afternoon of the 19th she had a rather severe general convulsion and was placed in a warm bath and given chloroform by inhalation, but died three hours later.

The result of the autopsy, simply stated, is as follows: Considerable quantity of serofibrinous fluid in pleura; no adhesions; upper lobe of left lung edematous; lower lobe of right lung completely consolidated; pericardium distended with fibrinous pus; as to kidneys, the capsules were free, both enlarged and pale and the pyramids distinct. The liver and spleen were apparently not affected.

A BADLY TREATED FRACTURE.

Kate B., aged 9 years, was thrown from a horse, September, 1896, and the horse stepped on her right wrist one and one-fourth inches from the wrist-joint. The ulna was fractured—simple fracture. Considerable extension on the hand was required to reduce it, under chloroform. Flat wooden splints were applied,

internally, from the elbow to the wrist-joint, and an external splint from the elbow beyond the ends of the fingers, with little padding used. A bandage was tightly applied over the arm and hand to the fingers, before swelling and application of the splint. No cotton was used over the hand. Pain was very severe for two weeks; bandages were loosened one month after the accident; the fingers were found much swollen and discolored the morning after the accident. Two weeks after injury sloughing began at the outer side of little finger, proximal end of thumb, inner aspect of wrist, back of hand, and at end of splint near elbow. Ulceration at bases of little finger and thumb was deep, at other points superficial. Dressing was allowed to remain two weeks longer, during which time there was considerable suppuration. When dressings were removed four weeks after their application, they had adhered to the ulcerated surfaces, and a considerable amount of pus escaped. The ulcerated surfaces were covered with unhealthy granulations. At this time there was no sensation in the fingers—they were pale in color—both fingers and wrist were straight and stiff and there was no motion in either of them. The ulcers were dressed with ointment. In one week, as soon as circulation was somewhat improved, there was decided wrist-drop and flexion of all the fingers tightly into the palm of the hand. The thumb was so closely bound down to the hand that a knife blade could hardly be passed between them. The radius and ulna were united. One week after removal of the first dressing, perforated tin splints were very loosely applied internally and externally, and an effort made to overcome the wrist-drop, without results. These were not left on long. The ulcers were healed some time in December. During the latter part of January, the patient was given electricity and massage in Atlanta for three weeks. She was given home treatment similar in character for about one year. The radius and ulna were separated about six months after the accident. The skin over the back of the hand, which was closely adherent at first, was gradually loosened by means of manipulations. At the present time, the length of the middle finger of the right hand is $2\frac{3}{8}$ inches, while that of the left is $2\frac{3}{4}$. The circumference of the right hand at the base of the fingers is 6 inches, while that of the left hand is $6\frac{3}{4}$ inches. The length of the right ulna is $9\frac{1}{4}$ inches, while the left is $9\frac{1}{2}$ inches. The accompanying radiograph gives a very good idea of the position of the bones as they were when patient first came under my observation.

I wish it to be expressly understood that this case was not seen by me until a short time ago—over two years after the injury occurred. Since that time I have been using electricity and massage, and have to some extent broken up a part of the firm adhesions.

TOXINS OF THE BODY.*

BY WALTER F. McCABE, M.D.
BELOIT, WIS.

The human body, in its normal or its pathologic state is the theater of the toxic elaborations carried on either by the organism itself, or by the microbes which are normal inhabitants, or by those which are guests of the alimentary canal.

In the first rank come the mineral substances taken with our food, even the most inoffensive, particularly on account of the mineral matters; then the products of physiologic secretion, the products of digestion, and toxic substances resulting from intestinal putrefactions. The poisons which exist in the tissue and in the intestinal canal are likewise found in the urine, either natural or modified by oxidation. In every disease of the intestinal canal there is an increase of urinary (indican) poison. There is an increase also in intestinal obstruction and strangulation. The blood, therefore, is the necessary medium between the seat of the formation of these poisons and their place of elimination. The carbonic acid which the lungs of an individual exhale in twenty-four hours is sufficient to poison a man many times.

In the alimentary canal we can not make the distinction between the toxins brought there by the secretions and those which are manufactured there. The difficulty of collecting the secretions of the skin, and the

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small amount taken make research in this line very unsatisfactory. We are, therefore, compelled to look to the urinary apparatus for the demonstration of the toxic products of emunction; by it are eliminated the toxic substances which are not volatile, allowing for those which are destroyed by the liver and the organism as a whole. We are inclined to blame the coloring matter of the urine, odorous and volatile, and mineral matters, especially potassium. They certainly are toxic, but constitute only a part of the toxicity of urine. We know urine taken as a whole is toxic. The degree of concentration causes its toxicity to vary, toxicity depending on the substances held in solution. On an average of fifty-two ounces, man makes a sufficient amount of urinary poison to kill himself. The toxicity of urines varies according to circumstances, cerebral activity, muscular activity, sleep, dieting, etc. The urines of sleep, although more dense, more rich in solids, are almost always less toxic than the urines of the day. During sleep man elaborates from two to four times less poison than during an equal time of cerebral activity. The urines of sleep are always convulsive, while those of the day are slightly so, if at all, but are markedly narcotic. Years ago it was the popular belief that during the day the body forms a substance which when accumulated induces sleep, and that during sleep it elaborates a substance which when accumulated would induce waking.

The poisons of the day and those of the sleeping period are not only different in intensity and quality, but they are antagonistic, the one being an antidote to the other. Suppose we spend a day in the open air with vigorous exercise, we diminish the toxicity one-third in twenty-four hours. This toxicity remains less during the repose following the exercise, showing that a large part of the toxicity is due to organic substances incompletely oxidized. The increase of toxicity on keeping urine standing also makes us think that the toxicity is not due to the mineral substances alone. Decolorized urine, which has but little of its mineral substance, does not cause convulsions. Among mineral matters potassium is the one thing which makes itself felt in its toxic totality.

We ask, is urea toxic? There are few bodies in the organism less toxic than urea. The absence of urea is injurious to the individual because it is very important as a diuretic. Many have tried to accuse uric acid of being the cause of the toxicity of urine, but it is manufactured in the body in too small a quantity. Even in the gouty and rheumatic patient we do not find enough to produce intoxication.

We find in urine two substances capable of producing convulsions; one is organic, and found in less quantity in the day urine than the narcotic material; the other convulsive substance is potassium, although we can not attribute to it alone the convulsions which the injection of urine produces. We also have in the urine a narcotic substance which is organic; there is an organic substance which causes contraction of the pupil, an organic substance which reduces heat by diminishing heat production, and an organic substance which produces salivation.

Blood is toxic, and normal urine is constantly removing toxic substances from it. It receives from the tissues a certain quantity. We know that from the extract of muscle we can produce convulsions. It contains, therefore, in the normal state always a certain quantity of toxin. If elimination is prevented and the supply of it continues, accumulation of toxic material produces intoxication.

In order to study the toxic effects of bile we must examine it in the liver at the moment of its secretion. Bile is abundant; over 800 c.c. are secreted in twenty-four hours. Even in the normal state a certain quantity of the toxic matter may be reabsorbed in the duodenum. In twenty-four hours man makes by his liver alone enough bile to kill three men of his own weight. Man forms in eight hours, simply by his hepatic secretions, enough poison to kill himself. In twenty-four hours the urine does not eliminate one-half the quantity necessary to poison a man. The volume being equal, bile is nine times as poisonous as urine. In an equal period of time biliary secretions represent a degree of toxic power six times as great as the urinary secretions. The urine carries away part of the toxic matter secreted by the liver; the balance is neutralized in the intestines and liver. We are sure of the stoppage of the bile in hepatic colic, indicated by pain, and it is twenty-four hours before the icteric tint shows itself; the urine is colored quickly. It is because bile is so poisonous that a sudden injection of it does not produce jaundice—death ensues before the tissues have had time to become colored. The greatest danger in jaundice is renal impermeability. We never see accidents the outcome of intoxication with normal kidneys. Jaundiced urines owe their toxicity to the waste products of cellular disintegration. In the coloring matter of bile resides the greater part of its toxicity, because decolorized bile loses two-thirds of its toxicity.

In classing the toxic products the mineral substances come first, chiefly potassium; products of disassimilation, products of intestinal putrefaction, chiefly ammonia; next, the organic products of disassimilation, including a small quantity of bile. In the normal state potassium is present as an anatomic constituent, but not of the fluids. The mineral and organic poisons are, therefore, in general, poisons of disassimilation.

Putrefaction is a source of intoxication arising from imperfect metamorphosis of digested matter, and from the micro-organisms in the intestinal canal. Putrefaction by heat develops a more intense toxicity; by cold, intoxication is not only slower, but modified.

Many of the accidents called uremic happen in a period of nephritis in which the retention of toxic substances is inadmissible. Uremia comprises various and multiple intoxications. It is a mixed poisoning, not by urine, but by what should have become urine, for the accidents from the retention of urinary substances are not those from the reabsorption of urine. The sources are disassimilation, a certain number of secretions, alimentation, and intestinal putrefaction.

There are cases in which we have been able to demonstrate that the grave accidents of a true indigestion were of a toxic order. It is the result, not of the food, but of the non-digestion. The digestive juices cease to transform food which the stomach does not care to receive. Urticaria often seems to be of toxic origin. Among many young girls we see acne on the temples and about the chin, with scarlet redness of the nose and cheeks, which develops about two hours after meals. Are not these cutaneous manifestations of toxic origin? The odor of the breath is a

witness to the elimination of these poisons. Among dyspeptics we often notice recurring coryza and frequent sneezing in the morning, due probably to the elimination of the toxic substances. Whatever the disease of the stomach may be, certain functional disturbances are sufficient to cause the development of dyspeptic coma, which, symptomatically, is identic with diabetic coma.

In certain chronic diseases the toxic nature of the urine is the same as in the normal condition. Disease sometimes diminishes, sometimes augments, the toxicity. However, in the greater number of pathologic urines and in that of feverish diseases, we find an increase in the normal degree of toxicity, especially the power of producing convulsions. We also find new toxic properties. In typhoid fever the urine, which at first is only slightly toxic, when matter is being slowly destroyed, becomes decidedly poisonous at the period of convalescence, when rapid emaciation takes place.

The coloring matter is increased in the urine of fever patients, although the convulsive power does not disappear under decoloration, which proves that convulsions in these cases are due to a great extent, to potassium, and not exclusively to organic convulsive matter. It is the general opinion, however, that the urine in acute diseases owes its toxicity not to a special poison but to certain normal poisons in excessive quantities. Febrile urine produces the same phenomena as normal urine, only more quickly. We see in diabetic patients simply a phase of uremic poisoning with the distinction that the poisoning is produced by exaggerated disassimilation, and that it is retained in the blood through the inadequate action of the kidneys. It is probable that in these cases poisoning exists similar to that of severe dyspepsia.

How are we to combat these poisons? We know the liver stops and transforms certain portions of our food. It also plays an important part in arresting and destroying the poisonous substances, but it is insufficient to destroy those poisons formed in the tissues. Here the emunctory process acts as a safeguard. To avoid absorbing these toxins the emunctory organs must be in a state of anatomic and functional integrity. The alimentary canal should be made as nearly antiseptic as possible. Increase the renal secretions by diuretics, and thus hasten the elimination of the excess of poison that has been sent into the circulation. The liver should also be stimulated since it has the power of arresting poisons. The skin and the lungs should likewise be stimulated. If all these fail, we must have recourse to certain antidotes. Never give up the contest; keep up the strength of your patent so that he may have time to eliminate the poison. This, of course, is general. Each individual case, suffering from one of the many sources of intoxication, will demand a special line of treatment.

THE PURE beer bill (JOURNAL, February 18, p. 387) in New York did not receive the governor's signature, as he is said to consider it for the most part simply a repetition of one of the articles of section 41 of the public health law, already in force, and therefore superfluous; while it is also objectionable for the reason that its final section provides a heavier penalty for the adulteration of beer than for selling food composed of diseased or decomposed animal or vegetable substance.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Bulletin of Johns Hopkins Hospital, May.

1.—*Acute Diffuse Gonococcus Peritonitis. Harvey W. Cushing.
2.—*Case of Atrophy of Optic Nerves following Hemorrhage from Stomach, with a Consideration of Causes of Post-hemorrhagic Blindness. Samuel Theobald.
3.—Lichen Scrofulosorum in a Negro. T. Caspar Gilchrist.
4.—New Instrument for Measuring Heterophoria and Combining Power of Eyes. Frederick H. Verhoeff.
5.—*Solution of Mercury in the Body. Arthur S. Chittenden.

American Journal of Insanity (Baltimore), April.

6.—*Katatonic Symptom—Complex. W. L. Worcester.
7.—*Tetanoid Seizures in Epilepsy. L. Pierce Clark.
8.—*Intermittent Mental Stupor. H. S. Noble.
9.—*Symptoms Following Lumbar Puncture in Tabes Dorsalis. W. L. Babcock.
10.—*Clinic Cases II and III—Syphilitic Insanity. Henry J. Berkeley.
11.—*Insanity and Homicide. H. E. Allison.
12.—*Hydric Treatment of the Insane. G. W. Foster.
13.—Abstract of Historic Sketch of Canadian Institutions for the Insane. T. J. W. Burgess.

Annals of Gynecology and Pediatry (Boston), May.

14.—*Uterine Fibroma. O. Beverly Campbell.
15.—*Operations During Pregnancy. Charles P. Noble.
16.—*Cretinism and its Treatment. F. A. Pillsbury.
17.—*Case of Traumatic Neuritis with Complete Monoplegia of Right Forearm: Operation: Improvement. F. Savary Pearce.
18.—Consideration of Parenchymatous Inflammations of Mouth and Tongue. J. L. Goodale.
19.—Retropharyngeal Abscess and Retropharyngeal Adenitis. Johann v. Bokay.

Therapeutic Gazette (Detroit), May 15.

20.—*Varieties of Eczema and Their Treatment. Arthur Whitfield.
21.—*Use of Tincture of Cantharides in Chronic Parenchymatous Nephritis. Julius Salinger.
22.—*Care of Teeth During Sickness, and the Philosophy of Lancing Children's Gums from the Standpoint of the Dental Practitioner. Joseph Head.
23.—*Treatment of Ischochymia. A. L. Benedict.
24.—*Organotherapy in Gynecology. W. A. Neuman Dorland.

Canadian Practitioner and Review (Toronto), May.

25.—Astragalus in Congenital Talipes—Equinovarus. Clarence L. Starr.

Dominion Medical Monthly (Toronto), May.

26.—Recent Cases from Practice, Illustrating Four Types of Ovarian Cystomata with Photographs. Hunter Emory.
27.—Some Features of Medical Nomenclature. A. F. McKenzie.

Alabama Medical and Surgical Age (Birmingham), May.

28.—*Report of Epidemic of Smallpox in Jefferson County in 1897 and 1898. Wm. H. Wilder.
29.—Antipyretics: Their Uses and Limitations. T. H. Frazier.
30.—Cerebrospinal Meningitis: Report of Cases. J. D. Gibson.
31.—Aneurysm, with Report of Case of Brachio-Axillary Artery: Operation: Recovery. W. D. Gaines.
32.—*Non-Surgical Treatment of Buboes, or Inguinal Adenitis. W. H. Williams.

Brooklyn Medical Journal, June.

33.—*Static Electricity. Frederick J. Shoop.
34.—*Electrodes and Electric Devices. Lucy Hall Brown.
35.—*Actual Schleich Narcosis. A. F. Erdmann.
36.—*Appendicitis Complicating Pregnancy. Gaslow A. Gordon.

New Orleans Medical and Surgical Journal, June.

37.—*Signs and Tests of Death (concluded). Justin Herold.
38.—An Unreduced Dislocation of Fifth and Sixth Dorsal Vertebræ. P. L. Bellingen.
39.—*Involvement of Heart and Brain in Case which First Appeared to be a Mild Attack of Acute Articular Rheumatism: Recovery. E. M. DuPaquier.
40.—*Occurrence of Nausea in Case of Pneumonic Infection: Its Prognostic Value. E. M. DuPaquier.
41.—Malarial Hematuria: Three Cases in Succession Treated Successfully with Quinin Sulphate. T. B. Odorn.

Woman's Medical Journal (Toledo, Ohio), May.

42.—*Injuries to Eyeball. M. Jean Gale.
43.—*Studies of Melancholia (concluded). Maria M. Vinton.
44.—Puerperal Infection, Report of Case. Ella Camp.

St. Louis Clinique, May.

45.—*Urino-Glucosometer, The. Heinrich Stern.
46.—Specialism in Medicine and Relations of Specialist and General Practitioner. A. C. Corr.

Northwestern Lancet (St. Paul), May 15.

47.—*How Shall We Quarantine Against Diphtheria. H. M. Bracken.
48.—*Clinic Study of Cases Resembling Typhoid. O. C. Strickler.

Ophthalmic Record (Chicago), June.

49.—*Contribution to Treatment of Embolism of Central Artery of Retina. Casey A. Wood.
50.—Case of Chancre of Conjunctiva. E. C. Ellett.
51.—*Fistula of Orbit due to Disease of the Lachrymal Division of Ethmoidal Cells—Operation and Cure. G. E. de Schweinitz.
52.—*Abscission and Combined Keratectomy. Geo. C. Harlan.
53.—Brief Report of Case of Fibroma of Eyelid (painful subcutaneous tubercle of Wood). Chas. A. Oliver.
54.—*Clinic Study of Double Choked Discs in a Case of Quiet Otitic Thrombosis of the Sigmoid Sinus without Pyemia. Clarence A. Veasey.

Medical Register (Richmond, Va.), May.

55.—*Extragenital Chancre, with a Report of Cases. Louis C. Bosher.
56.—*Puerperal Eclampsia. T. E. Baird.

Southwestern Medical Record (Houston, Tex.), May.

57.—*Pneumonia—Its Treatment. S. C. Red.
58.—*Scraps of Surgical Cases. F. B. King.

Hot Springs Medical Journal, May.

59.—*Gummata and Chancre Redux. Henry G. Anthony.
60.—*Complications of Stricture. M. G. Thompson.

Dunglison's College and Clinical Record (Phila.), April 15.

61.—*Complication of Posterior Urethritis. Orville Horwitz.
62.—Treatment of Locomotor Ataxia. Frederick P. Henry.

Oklahoma Medical Journal (Guthrie), May.

63.—Cold Taking: Cause and Prevention. E. E. Hamilton.
64.—Lacerated Cervix Uteri and Treatment for Same. R. D. Love.

American Medical Compend (Toledo, Ohio), May.

65.—Nutrition in Diseases of Children. W. A. Dickey.
66.—Ureters, The. Byron Robinson.
67.—Relation of Microscopy and Embryology. C. S. Miller.
68.—Anemia. F. E. Hale.

Journal of Medicine and Science (Portland, Me.), May.

69.—Dyspepsia. R. F. Goodhue.
70.—Tuberculosis. C. W. Pillsbury.
71.—Hypnotism, Autosuggestion, Anesthesia and Hysteria. E. H. Judkins.
72.—The Proper Dosage of Thialion. E. M. Smith.
73.—Masso-Therapeutics. E. H. Judkins.

Plexus (Chicago), May.

74.—Obstetric Errors. A. McDiarmid.
75.—Twenty-five Indications for Incision of Membrana Tympanum (Myringotomy.) Wm. Lincoln Ballenger.

Virginia Medical Semi-Monthly (Richmond), May 26.

76.—*Report of Case of Gout, with Embolism of Posterior Tibial Artery by an Atheromatous Plate. Frederick A. Packard.
77.—*Vaginal Hysterectomy—Its Indications and Advantages. James N. Ellis.
78.—Cranial Injuries of Childhood and their Treatment. B. Merrill Ricketts.
79.—Melancholia. Barton W. Stone.
80.—Tetany Complicating Gastro-Intestinal Catarrh. Julius A. Faison.
81.—Prophylactic Treatment of Tuberculosis. T. A. Casey.
82.—*Report of Epidemic of Smallpox in Jefferson County, Ala., 1897 and 1898. Wm. H. Wilder.
83.—*Anomalies of the Aorta, with Specimen. Barnard L. Baker.
84.—Mitral and Aortic Lesions of the Heart. J. L. Campbell.

Medical Fortnightly (St. Louis), June 1.

85.—*Treatment of Prostatic Obstruction, with Special Reference to Vasectomy. Reginald Harrison.
86.—*Proctitis and Ischiorectal Abscess. S. G. Gant.

North Carolina Medical Journal (Charlotte), May 20.

87.—Dysmenorrhea and Treatment. Milton P. Creel.
88.—*Chloroform-Ether Controversy. Aug. Schachner.
89.—Report of Successful Cesarean Section. J. Whitridge Williams.

Medical Age (Detroit), May 25.

90.—*European Obstetrics. J. J. Mulheron.
91.—*Hawaiian Medicine. Charles Davison.

New York Medical Journal, June 3.

92.—*The Doctor Outside of Medicine. William L. Stowell.
93.—*Some Further Observations on Obstetric Cases. John H. Barry.
94.—*Occurrence of Streptococcus Scarlatinæ (so-called) in Cultures from Throats in Cases of Scarlet Fever. John S. Billings, Jr.
95.—Case of Transitory Mania Occurring in a Syphilitic more than Three Years after Apparent Cure of the Syphilis. Charles O'Donovan.
96.—*Diphtheria: Serum Treatment in General Practice. Palmer Heath Lyon.
97.—*Antinosin in Treatment of Enuresis, Cystitis and Urethritis. R. F. Amyx.
98.—Case of Right Lateral Displacement of Bladder with Fecal Impaction. Reported by Major L. C. Carr.

Cincinnati Lancet-Clinic, June 3.

99.—*Pityriasis Rubra Pilaris (Devergie) and Lichen Ruber Verrucosus: A Differential Pathologic Study. M. L. Heidingsfeld.
100.—*New Arts in Practice. Wm. B. Doherty.

Boston Medical and Surgical Journal, June 1.

101.—*X-ray Examinations an Aid in Early Diagnosis of Pulmonary Tuberculosis. Francis H. Williams.
102.—*Foreign Bodies in Larynx of Children. J. Payson Clark.
103.—*Massage and Galvanism in Gout. Douglas Graham.
104.—*Three Cases of Leukemia. J. N. Hall.

Philadelphia Medical Journal, June 3.

105.—*Effects of Violent and Prolonged Muscular Exercise on Heart. Harold Williams and Horace D. Arnold.
106.—*Nuclear Ophthalmoplegia. James Henrie Lloyd.
107.—On Tabes. M. Allen Starr.
108.—*Diagnosis of Trichinosis Made Through Increase of Eosinophilic Cells in Blood. A. Duval Atkinson.
109.—*Arsenic in Chronic Malaria. Charles E. Woodruff.
110.—*Successful Inoculations from Case of Rabies. J. Hartley Anderson.
111.—Typic Case of Appendicitis. W. H. Roberts.
112.—Report of Case of Retroversion of Uterus, Complicated with Uterine Fibroma. Operation: Enucleation of Fibroma followed by Ventral Suspension; Subsequent Normal Pregnancy and Labor. Jacob C. Rutherford.

Medical News (N. Y.), June 3.

113.—*New Diagnostic Spots of Measles on Buccal and Labial Mucous Membrane. Henry Koplik.
114.—*Oroscopy; Items of Interest from a Dermatologic and General Standpoint. Jacob Sobel.
115.—*Gastro-enterostomy with Entero-anastomosis by Braun's and Gallet's Methods. Report of Five Successful Cases. (Illustrated.) Robert F. Weir.
116.—*Contribution to Study of Cerebrospinal Meningitis. Lewis A. Conner.

Maryland Medical Journal (Baltimore), June 3.

117.—*Serum Therapy, with Report of Three Cases in which Streptococcus Serum was Used. Jesse Shoup.
118.—*Headaches and Nervous Symptoms, Caused by Errors of Refraction and Heterophoria. James J. Mills.
119.—*Notes on Recent Scientific Literature. Wm. Lee Howard.

Medical Record (N. Y.), June 3.

120.—*Some Problems of the Alienist. Frederick Peterson.
121.—*Obscure Causes of Disease. W. Stanton Gleason.
122.—*Rubeoliform and other Eruptions: with Special Reference to Koplik's Phenomena. Jacob Sobel.
123.—*Remarks on Midwifery Question: Availability and Simplicity of the Midwife; Secret of Her Hold on the Masses. Thomas J. Hillis.

AMERICAN.

1.—Acute Diffuse Gonococcus Peritonitis.—Cushing's paper discusses the commonly received view that the gonococcus does not produce diffuse peritonitis alone without other associated infection. He reports two cases, both thoroughly examined, in which a general acute peritonitis was proven to exist with only the gonococcus as its cause. He claims that this paper brings for the first time convincing evidence of the existence of a diffuse, general inflammation of the abdominal cavity, caused by this germ. While such may occur, it must be either rare or unrecognized and may depend on some especially receptive condition of the serosa or the virulence of the organism. The peritoneum is not more immune than is the peri- or endocardium to the gonococcus inflammation, and being more exposed suffers more commonly in females, although the relatively benign course of the disease makes it a rare condition to come to the attention of the surgeon in an acute stage.

2.—Optic Atrophy from Hemorrhage.—Theobald reports a case of partial, nearly complete loss of vision due to hemorrhage from the stomach, and reviews the facts of similar cases so far as known. He concludes that the weight of evidence afforded by the ophthalmoscope points to thrombosis of the central retinal artery as the usual cause of the blindness which occurs in post-hemorrhagic anemia, and that the resistance offered to the already enfeebled blood-current by the intraocular tension is an important etiologic factor. In exceptional instances thrombosis occurs not in the artery but in the central retinal vein, as shown by the ophthalmoscope, and in other cases it may be that the lesions are the results of hemorrhagic or serous infusions into the optic nerve or its sheath (Samelsohn). Here also the obstruction of the blood-current in the artery by the intraocular tension may have its part.

5.—Mercury in the Body.—The therapeutic and toxic effects of inunctions and inhalations of mercury led Chittenden to investigate the method by which it is taken into the system. Insoluble mercury, as shown, does not pass through the intact epithelium in any part of the body and it must, therefore, be taken up in a soluble form either by the secretions of the surface or something in the menstruum. He instituted experiments to determine beyond criticism, as far as possible, the fact that mercury is absorbed and in what form it is eliminated, and reached the result that the solution is affected by the body juices and the mercury eliminated as an albuminate, but just how this is done it is impossible to say.

6.—Katatonic Symptom-Complex.—Worcester considers, from his observations at the Danvers Asylum, that katatonic symptoms are not rare, as they appeared in about 10 per cent. of the admissions in 1898. They are not usually isolated. Patients presenting one of these symptoms will generally, if carefully observed, be found at one time or another in the course of their disease, to show the clinic picture of katatonia in more or less completeness, although few, if any, fill it out entirely. Symptoms of this class must be considered to have an unfavorable prognostic significance. None of the men included in the table given have been discharged as recovered and none of those remaining are expected to recover. Four women have been classed as recovered, but he doubts the diagnosis. These figures are the more significant when we consider the shortness of the duration of the disease before admission. He reports nine cases in detail, the three last apparently showing that this symptom-complex may occur in the course of epileptic insanity and general paresis. Worcester feels justified in provisionally concluding that the katatonic symptom complex may occur in a variety of morbid conditions, though it is by far the most common in the class of cases to which Kraepelin has applied the term "dementia præcox."

7.—Tetanoid Seizures in Epilepsy.—With a general discussion of the literature as far as it goes on this subject, Clark reports at length a case of tetanoid epilepsy and concludes that the exclusive tonic convulsions of the petit mal epileptic fits are not identic with tetanoid seizures. Tetanoid seizures are clinic facts, although rare, but a distinct epilepsy, so called tetanoid epilepsy of Prichard, is not proven. Tetanoid seizures are only a modification of true epilepsy and probably have no relationship to tetanus.

8.—Intermittent Mental Stupor.—H. S. Noble reports a case in a male 13 years old, who exhibited a special form of stupor with intermittency, at first coming on every second day, but

later occupying a much larger portion of his time irregularly. The final outcome was recovery.

9.—**Lumbar Puncture in Tabes.**—Babcock reports three cases in which lumbar puncture was employed, in one of which there was decided improvement, though the operation was undertaken in an advanced stage. In only one case was there any bacillary infection of the cerebrospinal fluid discovered—a few streptococci. The three cases are simply suggestive as to the utility of the procedure, and he thinks it is worth further investigation.

10. **Syphilitic Insanity.**—Berkeley reports two cases with very elaborate postmortem investigation in one. The microscopic examination shows how severe symptoms may follow vascular inflammation without actual syphilitic growths or hemorrhage. The second case was one of acute insanity beginning in the early stages of secondary syphilis and recovering under an energetic antisyphilitic treatment.

11.—See abstract in JOURNAL, xxxii, p. 1354.

12.—**Hydric Treatment of Insane.**—Foster reports quite remarkable results in epilepsy and paresis from hydrotherapeutic measures. In the paretic cases the disease appeared to have been completely arrested in six out of twenty-one cases. One has remained well for over three years and one other two years, and two others have steadily gained for one year and ten months respectively, and have been free from all mental manifestations of the disease for at least six months. Two others have improved steadily for seven months and only three are in a worse condition than at the beginning of the treatment. One, reported a year ago among the arrests, suffered a return coincident with malarial poisoning; two others are decidedly improving after one and two years' treatment, and nine, who have been under treatment less than a year, remain about the same as at the beginning. His paper concludes with a very extensive bibliography of the subject.

14.—**Uterine Fibroma.**—Campbell describes the forms and treatment of uterine fibroma, illustrating with brief notes of cases. The mere presence of uterine fibroma may not demand operative interference. Freedom from pain, hemorrhage and systemic disturbances should indicate tolerance of the tumor. The operation when performed, varies with the case. In submucous tumors, morcellation through the vagina may be practiced in selected cases where the tumor is small and can be readily reached. In a large proportion of cases hysteromyomectomy is required. In subserous tumors myomectomy is preferable to hysteromyomectomy or panhysteromyomectomy. In interstitial tumors any of the different methods may be adopted, but he prefers hysteromyomectomy with extraperitoneal treatment of the stump.

15.—See abstract in JOURNAL, April 29, ¶ 6, p. 929.

16.—**Cretinism.**—Pillsbury sketches the history of cretinism and its treatment, and reports a case of his own personal observation in detail. The one treatment indicated in this case, and which has come into vogue in the past few years, is that with thyroids. He has favored the use of the raw thyroids in his own practice, but speaks well of some of the various preparations. He believes that the most obstinate cases of cretinism extending even over many years are amenable to this treatment.

17.—See abstract in JOURNAL, March 25, p. 664.

20.—**Eczema.**—Whitfield adopts Unna's division of eczema into two classes, simple and seborrheic, excluding from the latter class, however, psoriasis and simple pityriasis of the head. This still leaves some cases which seem to have supervened on simple seborrhea, beginning in the follicle but spreading to other parts, always sharply defined at the edges of the patches and tending to extend itself serpiginously. He also excludes the form described by Morris under the name of eczema follicularum, and the disorder named by Hans Hebra, eczema mycoticum, and lastly, Crocker's eczema circumscriptum. As regards simple eczema we know little of its etiology, but there is one definite disease believed to stand in casual relation with it, i. e., gout. He rather favors the idea that the degree of toxicity of the urine present is due rather to the state of the skin than that the disorder of the skin is dependent on that of the blood as reflected in the urine, and that therefore, there might be danger from sudden suppression of discharge where the kidneys are not sound from accumulation of toxic material in the blood. There is always danger also from the absorption of septic infection from large areas of the skin denuded of its protective horny layer. As stated, we know little of the etiology of simple eczema, and its parasitic origin is not accepted by Whitfield, though admitted as possible in cases of the seborrheal form. In the latter, therefore, we may use antiparasitic remedies, which are not so strongly indicated in the former. It is usually enough to employ some application that is not at all irritating, or very slightly so, and yet has an inhibitory action on the growth of any ordinary cocci. He mentions the Hebra's unguentum diachyli as suitable, and when the inflammation has disappeared some mildly stimulating application, such as a mild tar ointment.

21.—**Cantharides in Nephritis.**—Salinger believes that the tincture of cantharides has fallen into unmerited disuse as a diuretic, and reports two cases in which he found it of decided advantage, giving it in two drop doses with liquor ferri et ammonii acetatis, in chronic parenchymatous nephritis. He believes it will have one of the chief places in the treatment of this affection. Care should be taken to avoid large doses that would be irritating to the kidneys.

22.—**Care of Teeth.**—This paper treats of the necessity of special care of the teeth when taking drugs, especially acids, and advises as the only sure method of preventing injury, to use an alkaline wash held in the mouth after swallowing the acid. Also in case of sickness acids are formed in the mouth by fermentation, and are little less effective than the medicinal acids, so when a patient suffers from any disorder effecting the mucous membrane of the mouth it should be rinsed with a mild antiseptic wash every four hours and the teeth brushed every morning and evening. It would be well also to add a rinsing of the mouth with milk of magnesia or use a small piece of lump magnesia soaked in a 3 per cent. pyrozone solution, chewing thoroughly before ejecting. Regarding the lancing of the gums of infants, he thinks it a very important measure and objects to the use of hard material for rubbing the gums, so commonly employed. The lancet is the best resort in these cases.

23.—**Ischochymia.**—Benedict's paper treats of the motor disorders of the stomach and their management, giving full details as to diet, lavage and other local treatment. He does not believe in allowing patients, however, to learn to use the tube themselves as the treatment is apt to get beyond the physician's oversight and be improperly carried on. As regards surgical treatment, he speaks of it in cases where there exists stenosis or malignant disease. He refers to Bircher's operation and rather disfavors it.

24.—**Organotherapy in Gynecology.**—Dorland reviews the literature on the use of organotherapy and oöphorectomy in malignant disease of the breast, and reports three observations of his own in which thyroid extract was used with apparently good results in relieving the condition. He concludes that the ovaries exercise an important but little understood influence over other organs, especially the breast, and that this is in part neutralized by the action of the thyroid glands or thyroid substances introduced into the body. The administration of thyroid extract to patients suffering from inoperable mammary or cervical uterine cancer, exerts a slight inhibitory action on the growth and temporarily produces decided relief of the symptoms of pain and discharge. The removal of the ovaries, provided they are actively functionating, in these cases frequently causes an arrest of the malignant disease, and sometimes its complete cure. This action is materially aided by excision of as much as possible of the growth, supplemented by the administration of thyroid extract in full doses. In women past the menopause, the excision of these organs is not so effective, while in others relief appears within twenty-four or forty-eight hours and in favorable cases is rapidly progressive. The dose of thyroid extract that can be safely employed varies from 10 to 15 grains daily. Though this method should not result in perfect cure, it is, he thinks, the best palliative, operative procedure yet devised.

28.—See ¶ 82, below.

32.—**Treatment of Buboes.**—Williams treats large, hard tumors in the inguinal region as follows: He puts the patient to bed forty-eight hours; has a poultice of ginger and meal applied with a liniment made of equal parts of laudanum, tincture of camphor, tincture of belladonna and sulphuric ether. Every twelve hours he alternates it with an application of tincture of iodin. He has the patient put on an alterative, having opened the bowels well at the start. After forty-eight hours he tells the patient to sit around and continue the liniment without the poultice, alternating twice a day with tincture of iodin, recalling the poultices to make the glands soft. Under this treatment he finds extirpation of the glands rarely necessary and has not removed one for four years.

33.—**Static Electricity.**—Shoop describes the methods of applying static electricity, static electric baths, the electric breeze, the head-piece electrode, the spark, large and small, and the static induced current. He thinks it is applicable in almost all diseases or derangements when any form of electricity is indicated other than where the cautery or electrolytic effect is

desired. Among the prominent disorders treated by him are: muscular rheumatism, intercostal neuralgia, wryneck, muscular paralysis and atrophy, facial neuralgia, gastralgia, enteralgia, ovarian neuralgia, atonic dyspepsia and constipation, aches, uterine pains, menstrual pains, pains anywhere, insomnia, depressed heart action, tobacco heart, gymnasium heart, cold extremities, sprained wrist, ankle, knee, and other joints, nervous debility, melancholia and neurasthenia.

34.—Electrodes and Electric Devices.—Brown describes a number of electrodes, etc., of her own devising, among them a static machine brush, an adjustable stand, an electric heater, rubber covered cords, etc.

35.—Schleich Narcosis.—The writer has used the Schleich solutions for general anesthesia in some seventy-five instances, covering a large variety of patients and classes of operation. He speaks favorably of the Schleich method. The time of narcosis averaged fifty-two minutes and the average quantity of the anesthetic required before beginning the operation was little less than 6 drams, in no case more than 8. He thinks that the awakening was more rapid when once begun, as well as more pronounced, than when other anesthetics were used. The patients manifested less repugnance; the so-called second stage was only present in a few instances and never so marked as it often is with ether. One of the very comfortable facts was the absence of bronchorrhea; another was the comparative freedom from unpleasant odor; the third was the infrequency of cyanosis; and lastly, the quick re-establishment of anesthesia if the patient was becoming conscious.

36.—Appendicitis Complicating Pregnancy.—Gordon reports 11 cases of appendicitis complicating pregnancy, in a number of which operation was performed. Of the cases operated on, four ran to full term, the time of operation being 3 and 4½ months; two reported as operated on during early pregnancy. He believes that the removal of the appendix should be advised in a woman subject to recurrent appendicitis in order to avoid the possible complication of appendicitis in pregnancy. Operation should be urged in all cases where the diagnosis is clear, and especially in the early weeks of pregnancy, as the patient might recover from one attack and the trouble recur at a later stage, adding much to the danger of both mother and child. Pregnancy does not contraindicate operation, and success depends largely on early diagnosis and operative interference.

37.—Signs and Tests of Death.—In this concluding article of his series Herold reviews, as signs of death, sensibility and motility, electric and heat tests, muscular flaccidity, cadaveric ecchymoses, rigor mortis and putrefaction. He believes that the latter is the only unmistakable sign aside from the cutting of the radial or temporal artery. No other tests are alone adequate.

39.—See abstract in JOURNAL, May 13, p. 1059.

40.—Ibid.

42.—Injury to Eyeball.—Gale reports six cases of injury to the eye, that came under her care and observation, mostly in miners.

43.—Melancholia.—This article is concluded from the April number, and gives a very good account of several cases of melancholia.

45.—Urine Glucosometer.—Stern considers the fermentation test the most reliable for determining sugar in the urine, and describes and illustrates the instrument which he has devised for the better application of this test.

47.—Quarantine against Diphtheria.—The proper quarantining of diphtheria has been shown, says Bracken, to be a very difficult problem. The unreliability of any time limit of the infectiousness of the disease, the dubiousness of early diagnosis in many cases, and the tendency to conceal the disorder are serious difficulties. The quarantine regulations ought to be somewhat elastic, based on the condition of each individual case, and should depend chiefly on the bacteriologic findings in every stage of the disorder and its convalescence. He recommends regular examination of school children at frequent intervals by public inspectors, and he would have every tuberculous, as well as every diphtheritic individual, excluded from school. The deprivation of educational advantages, he suggests, would be for the benefit of the patient, as requiring them to adopt a more out-of-door and healthy occupation in adult life. He offsets this, however, by saying that they should have special schools separate from others. His notions seem slightly impractical in some respects, at least in our present social organization.

48.—Cases Resembling Typhoid.—Strickler's paper is devoted to the subject of the diagnosis of cases resembling typhoid, and he briefly reports nine such. A great step, both positive and negative, in these cases was discovered in the Widal and Ehrlich tests. While the latter is not positively conclusive and the absence of the former not positively negative, there can be no positive diagnosis of typhoid when the Widal reaction has not at some time been present.

49.—Embolism of Central Artery of Retina.—Wood reports five cases of embolism of the central artery of the retina in detail, and insists on the fact that the effects of it are often recovered from spontaneously. There is usually some collateral circulation. The extent of the damage and character of the embolism must also be considered in the prognosis. Another fact allowing improvement in vision in these cases is that of the possible absorption of the plug. Several autopsies have shown that this may occur within a comparatively short time. Iridectomy is as rational now as it was when proposed by Graefe in 1859. If the caliber of the obstructed vessel is increased even for a few days after the critic moment of the embolism, it is certainly to be desired. He also mentions amyl nitrite inhalations suggested by Gifford, paracentesis and massage. As regards the latter, he does not seem to believe in its effectiveness to any great extent.

51.—See abstract in JOURNAL, April 1, p. 714.

52.—Ibid.

54.—Choked Discs.—Veasey, after noticing the prior observations of optic neuritis, associated with sinus thrombosis, from ear disease, reports the case of a boy, 12 years old, who was operated on for mastoid and sinus disease. The case presented the following points of interest: an otitic facial paralysis that rapidly disappeared after the operation; early appearance of optic neuritis, with the cerebral symptoms more intense on the side opposite the lesions; the appearance of sinus thrombosis with acute purulent, middle-ear disease, and optic neuritis continuing and increasing after the operation until choked discs with excessive exudate were present. The scotoma were absolute early in the disease, being central in one eye and annular in the other. The case shows the importance of ophthalmoscopic investigation in all cases of middle-ear disease in which there is the least suspicion of intracranial extension. Recovery of vision in this case was incomplete.

55.—Extragenital Chancre.—Bosher reports or briefly mentions seven cases of extragenital chancre: two of the lower lip, one of the tonsil, one of the hypogastrium, one of the right index finger, one of the chin, and one of the left side of the neck. They were not all cases of syphilis insontium, but that on the finger was contracted by a physician in attendance on an obstetric case. In several of the others the source of infection was not known or is not stated.

56.—Puerperal Eclampsia.—Baird's paper reports three cases. He advises venesection in plethoric congestive cases, repeating it once, or even twice, if necessary, the total amount reaching twenty-four to thirty-six ounces. He would not use this method prior to the fifth or sixth month of pregnancy, and not to the exclusion of other measures.

57.—Pneumonia: Its Treatment.—This paper is a sequel to two preceding ones on the etiology and symptoms of pneumonia. Red believes in alcoholic stimulants in lobar pneumonia, and in strychnia as another valuable agent against heart failure. In severe dyspnea, inhalations of oxygen materially aid in the aeration of the blood. High temperature and delirium are to be controlled by sponging and ice-packs. Pleural effusions may demand aspiration and abscesses may require opening and cleaning out. He does not believe in expectorants nor in the use of digitalis. The serum treatment is theoretically a specific, and yet the data are insufficient as to its use. He thinks it entitled to the serious consideration of the profession. Other measures are the usual supporting treatment, relief of pain, counterirritants, etc. In bronchial pneumonia he does believe in the use of expectorants, and knows nothing better than the well-known brown mixture. In that form attending influenza, moderate use of coal-tar derivatives may be advisable. There is no method, so far as he is aware, of affecting the course of cirrhotic pneumonia. Syphilitic pneumonia demands, of course, specific treatment. Tubercular pneumonia requires a treatment for this disease, and in the traumatic form, aside from the surgical rules, the treatment is the same as for the lobar disease.

58.—Surgical Cases.—King's paper describes his treatment of ingrowing toe-nails, rib fracture, fracture of the forearm, olecranon, and of the leg below the knee.

59.—See abstract in JOURNAL, March 11, p. 543.

60.—Stricture.—The special complication mentioned in Thompson's short communication is urinary infiltration. He insists on the importance of perineal operation and drainage in these cases. He especially cautions against calling in consultation any one not familiar with this class of cases, as an opinion

against operation would be very embarrassing and sometimes dangerous.

61.—**Posterior Urethritis.**—The brief note of Horwitz is on septic complications of posterior urethritis and he calls attention to the fact that change of scene is very beneficial in these cases and sea air particularly so.

76.—**Embolism of Posterior Tibial.**—This paper by Dr. Packard is of interest as giving a report of an unusual case of gangrene of the foot in a case of gout which was diagnosed correctly, the diagnosis being confirmed by autopsy. A piece of calcareous plate was found, which had detached itself from the atheromatous aorta and lodged in the posterior tibial artery, cutting off the circulation of the foot. Amputation had been performed, but the patient died from exhaustion after sloughing of the flaps.

77.—**Vaginal Hysterectomy.**—Ellis argues in favor of vaginal hysterectomy over the abdominal operation as being less disturbing, less mutilating and more satisfactory in results. He thinks that it is indicated in all operable malignant diseases of the os, cervix or body of the uterus; in suppurative bilateral disease and incurable inflammation of the appendages; in complete prolapse; in incurable chronic inversion, inoperable (septic) puerperal metritis; in myoma and fibromyoma (with morcellement when necessary) unless especially contraindicated by size, extensive adhesions, etc. In excessively corpulent patients with very thick abdominal walls, the vaginal operation is safer.

82.—See ¶ 28 above.

83.—**Anomalies of Aorta.**—Baker reports a case of the persistence of the fourth right branchial arch, forming a duplicature of the aorta, the false aorta, if it may be so called, having a large aneurysm developed in its walls. Similar conditions have been reported by Bouillaud, Paget, Welch and others.

85.—**Prostatic Obstruction.**—This paper by Reginald Harrison, notices the various operative procedures for the relief of prostatic urinary obstruction. The writer still advocates McGill's suprapubic section for pendulous prostatic fibroids and excrescences encroaching on the bladder interior and causing severe irritation. For other forms of trouble, he does not specially favor castration, but prefers vasectomy in advanced forms of obstruction after medication and catheterization fail, though its effects on the prostate are slower. To this gradual change he claims, however, much of the comparative safety of this operation is due. The tube can generally be felt and rendered subcutaneous in the upper portion of the shaved and disinfected portion of the scrotum, and exposed by a linear incision about an inch long over the line of the duct. It is then seized by a Morant-Baker artery clamp forceps, and drawn out of the wound, the base of the loop ligated and the free portion removed by curved scissors. The stump is then slipped back into the scrotum and the wound closed with one or two fine sutures. A collodion dressing on gauze is then applied and healing usually takes place in forty-eight hours. Harrison does not generally divide both vasa on the same occasion, but prefers an interval of several days. As an anesthetic he prefers nitrous oxid and ether to local anesthesia for the few minutes required. Pavone advises torsion of the ends of the canal to insure complete closure, in addition to excision. Bransford Lewis has shown that mere ligation may be ineffective. The cases selected for vasectomy are those of obstruction caused by general prostatic enlargement where the gland had not yet become largely fibroid but still preserved a fair proportion of its secreting and muscular structure. These cases have usually some residual but not necessarily disordered urine. The changes induced by the operation are immediate and remote. The former are commonly observed in a few days and are, he believes, explainable by vascular changes. The more remote changes come on between a fortnight and a year and are mainly in the atrophy of the organ. When the hypertrophy is regular, vascular and spongy, the changes are more rapid than when it is limited, pendulous and fibrous. A vesical sac, not an uncommon complication of hypertrophied prostate, may by its bacterial infection and its overflow of urine, minimize or even destroy the good effects of castration or vasectomy. Much depends on its position and form as regards the mischief it may do. Carcinoma, if slowly progressive, may simulate a hypertrophied prostate and lead to fruitless operation. Harrison thinks it likely that this operation will be extended to other disorders of the urinary organs, as these ducts may be the route of migration of microbes and thus the disseminators of disease.

86.—See abstract in JOURNAL, May 27, ¶ 36, p. 1165.

88.—**Chloroform-Ether Controversy.**—Schachner shows the advantages, respectively, of chloroform and ether, believing that it would be unsurgical to be the devotee of any special anesthetic. The conditions which control the anesthesia are external and internal. External conditions, as in time of war, give the preference to chloroform on account of its rapidity of action, its portability and safety as regards inflammability. Internal conditions favoring chloroform are various. Tetanus and violent puerperal convulsions require it as the most rapid of the two agents. Very old subjects are too rigid about the chest to meet the demands of ether, and these senile changes give chloroform the advantage, but fresh A. C. E. mixture would be better than either. In extreme obesity ether is too exciting in many cases. When renal disease exists, with or without atheroma, chloroform is safer, but if heart lesion also exists, it may be difficult to decide. When secondary cardiac degeneration occurs, as in Bright's disease, ether is safest, also in valvular heart trouble. In diseases of the respiratory apparatus chloroform should have the choice. In organic brain disease, any anesthetic is accompanied with risk. As regards prevention of accidents, he believes that the administration of .5 to 1 oz. of whisky at least one-half hour before the anesthetic is given is a good practice, and if the circulation demands attention, hypodermic injections of strychnin or digitalis, singly or combined, according to the case. If the respiration is at fault, cocain, strychnin and atropin, alone or in combination. He mentions Rosenberg's method of using cocain in the nasal mucosa before anesthesia, but doubts its advisability. He alludes also to Porter's suggestion as to the indications derived from examination of the urine. Any flagging in circulation or respiration during anesthesia should be met with hypodermic injections. As regards restorative measures in case of accident, he thinks mechanic treatment is undoubtedly necessary, artificial respiration, pulling forward of the tongue, alternate raising and lowering of the body and flagellation on the chest with hot or cold towels. When signs of life appear, hypodermic injections may also be used. No agent is better than strychnin in doses of $\frac{1}{10}$ to $\frac{1}{20}$ of a grain.

90.—**European Obstetrics.**—Mulheron describes the methods in use at Vienna as fairly representative of European scientific practice. The features he finds essentially worthy of comment or adoption are the thorough preliminary (aufnahm) examination, including pelvimetry, which he thinks is applicable to private practice in this country, due regard to the feelings of the patient being perfectly compatible with the essential measures; the preparatory treatment for labor; the general recourse to episiotomy to forestall perineal rupture; and the method of tying the cord. The features he would not approve, aside from the Continental regardlessness of exposure, etc., are abstinence from the use of anesthesia and the exclusively scientific, rather than humanitarian, spirit of the Austrian schools. He would not think it necessary to also follow them in the complete disuse of digital interference and the postpartum douche.

91.—**Hawaiian Medicine.**—The paper of Dr. Davison gives a very interesting account of the practices of the native Hawaiian *kahunas*, or medicine men, and is of considerable ethnologic as well as historic medical interest as a record of the usages of a class that, with their race, must soon become extinct.

92.—**Doctor Outside of Medicine.**—This paper is interesting in its data and reminiscences of former physicians of New York and other seaboard cities. It brings things down to the present date, noticing physicians that are still living.

93.—**Obstetric Cases.**—Dr. Barry's paper is a review of 100 or more obstetric cases in addition to 250 previously reported. He reports a number of cases of abnormal labor and gives a series of points as to diagnosis, etc., of faulty position.

94.—**Streptococcus Scarlatinae.**—Billings notices the claims of Klein and Kurth, of the discovery of a streptococcus characteristic of scarlatina, and gives a tabulated statement of seventeen cases of throat examinations with cultures, made in the diagnosis laboratory of the New York City Health Department. In about 50 per cent. of the cultures colonies were observed which presented a spotted appearance as described by Klein, but the general results were practically negative. In only one case was there anything like the characteristic streptococcus scarlatinæ isolated. He concludes that while it does occur in some cases, it is either not constantly present or very difficult to isolate. As to its diagnostic value, he considers it very dubious, and failure to find it in no way negatives the diagnosis. He suggests the possibility of differences in the disease itself as observed here and abroad.

96.—**Serum Treatment of Diphtheria.**—Lyon believes in the efficacy of antitoxin treatment of diphtheria. He favors the injection in the left abdomen. As to the use of it per os, he thinks there is no call to resort to it at present. A much larger quantity would certainly be required. He concludes

that, to be efficacious, the remedy should be administered early, the first three days being the reasonable time in which to expect good results and the longer the time that has elapsed before the first dose, the poorer the prospects. He thinks that all exposed individuals should be immunized. As severe cases, that under ordinary treatment would result unfavorably, do well under the antitoxin, he believes in its use as routine treatment to be employed whenever diphtheria is suspected and even before bacteriologic diagnosis, the serum being the standard, not over six months old, and administered with perfect asepsis. The only unpleasant effect is a slight urticaria, which is of trivial importance.

97.—Antinosin.—Antinosin (the sodium salt of nosophen) is highly recommended by Amyx in enuresis, cystitis and urethritis, and he reports three cases to illustrate its value. It was employed in solution by irrigating the bladder, and its effects were very satisfactory. It possesses the advantage of being absolutely non-toxic and soothing rather than irritating.

99.—Pityriasis Rubra Pilaris and Lichen Ruber Verrucosus.—This paper is a differential pathologic study of these two conditions, too much detailed to be abstracted. It is illustrated by a number of half-tone plates.

100.—New Arts in Practice.—Doherty's paper is a general review of some of the popular errors and sanitary questions that come before the medical profession.

101.—X-Ray Examinations in Tuberculosis.—Williams reports several cases of the use of the X-ray in the diagnosis of pulmonary disease and, while not giving up other methods, strongly urges its employment as of value in detecting certain early abnormal conditions. He thinks the danger of X-ray burns is slight, if it exists at all, when proper precautions are taken.

102.—Foreign Bodies in the Larynx.—Clark's paper deals with the question of foreign bodies in the larynx of children and he has been able to collect 34 cases of which only 3 died. In 1 case death was immediate, from suffocation, in another the child died from inanition and probably bronchial pneumonia. He thinks that, while foreign bodies in the air-passages are more common in children than in adults, the mortality is lower. Leaving out cases in which death is immediate from shock or mechanic obstructions, cases of foreign bodies in the larynx are less fatal than tracheal or bronchial cases. In all cases of suspected foreign bodies in the larynx, laryngoscopic examination should be made at once, under ether anesthesia, unless the child is unusually tractable. If dyspnea is urgent, tracheotomy may be first performed. If the foreign body is visible in the larynx, attempts should be made to remove it by the mouth before resorting to any cutting operation.

103.—Massage and Galvanism in Gout.—Graham reports a case in which the indurations and swelling of gout disappeared rapidly under galvanism preceded and followed by massage. He cautions against the turning of these patients over to the hands of non-medical massage operators on account of the possibility of the gouty kidney being not equal to the demand of carrying off the waste produced. He thinks that while electricity and massage are required in gout, they would be better applied by a competent physician than by a gymnastic masseur

104.—See abstract in JOURNAL, March 25, p. 661.

105.—Effects of Violent Exercise.—Observations were made of thirteen participants in the annual Marathon running race of the Boston Athletic Club, the distance run being twenty-five miles. Before the race the radial pulse was strong and full without exception, and ranged from 72 to 88. After the race 11 showed a weak rapid pulse ranging from 104 to 120; 2 showed exhaustion with slow pulse, 60 to 70, 1 irregular, the other intermittent. The temperature taken before the contest ranged from 98.2 to 100 degrees; after the race, in every case it decreased from 2 to 5 degrees, the minimum temperature being below 94. Loss of weight was as low as $1\frac{1}{4}$ and as high as $5\frac{1}{2}$ pounds. The urine was examined before and after in 6 cases, and showed the presence of not only albumin but casts in every case, after the race. Thirteen examinations made by percussion before the race demonstrated relative cardiac dulness increased in 11; 2 showed diminished or normal area; these two showing a diminished or normal area did not finish; of the 10 completing the race 7 showed a relative increase in cardiac dulness, while 2 showed a decrease of this area corresponding to the position of the left ventricle after the race. Heart sounds before the race were normal, loud and full; immediately after the race weak in all cases, while in 11 systolic murmurs were noted, their point of greatest intensity was over the base and slightly to the left of the sternum, transmitted downward in a line corresponding to the left border of cardiac dulness, in some they were transmitted to the apex, and in all heard in the back. These murmurs disappeared within a short time. The writers show the results of the examinations can be summed up as showing an extreme condition of general muscular exhaustion, the muscular structure of the heart participating with other muscles. The murmurs are explained by remembering that the mitral valves, because of their most essentially muscular structure, are the first affected, and the earliest to fail to perform their normal functions, permitting regurgitation of the blood into the left auricle.

106.—Nuclear Ophthalmoplegia.—Lloyd gives a preliminary report of a case which is typic of the disease. The patient shows, however, abolished patellar reflexes without any other evidence of a posterior sclerosis.

108.—Blood Changes in Trichinosis.—Before diagnosis was made blood examination was suggested by edema appearing about the eyelids. Atkinson found a marked leucocytosis and great increase in the eosinophiles, being above 50 per cent. during the continuance of the severer symptoms of the disease. The percentage, it was observed, gradually decreased as the patient's symptoms subsided. The diagnosis was made plain by the finding of a few non encapsulated trichinæ in a section of muscle.

109.—Arsenic in Malaria.—Woodruff considers it advisable to administer arsenic in all cases of malaria unless the case is promptly cured after the first chill. His method of administration of this drug does not differ materially from that ordinarily resorted to.

110.—Inoculations from Rabies.—Anderson obtained the brain and cord of a rabid dog (from the bite of which two authentic cases of hydrophobia subsequently developed), from the medulla of which he inoculated the subdural space of a guinea-pig; in a month convulsions occurred and the pig died in a few hours. From the medulla of this pig a second was inoculated subdurally; symptoms did not develop for fourteen days; they were quite typic of rabies. This animal also lived only a few hours. No further inoculations were made.

113.—Koplik's Symptom.—In this paper the author calls attention to the sign described by him two years ago, which has now come to be recognized as a pathognomonic symptom of early measles. He points out its peculiarities in detail. It consists, as is well known, in small irregular spots of a bright red color, in the center of which is a minute bluish-white speck, appearing on the inner surface of the cheeks from twenty-four hours to five days before the eruption on the skin. By attention to these points, it will be possible to isolate measles at a much earlier period than was formerly the case. (See JOURNAL, XXX, April 30, 1898, p. 1063.)

114.—Oroscopy.—Sobel's paper goes thoroughly over the various symptoms and morbid appearances that may occur in the oral mucosa.

115.—Gastro-Enterostomy with Entero-Anastomosis.—Weir reports five cases of gastro-enterostomy supplemented by entero-anastomosis by Braun's and Gallet's methods. The paper is illustrated and he gives the methods of operation quite clearly.

116.—Cerebrospinal Meningitis.—Conner's paper is an analysis of 60 cases observed during the last six years, at the Hudson Street and New York hospitals. He calls attention to the comparative frequency of cerebrospinal meningitis in New York City, a frequency greater than seems to be generally supposed. The cases occur not only in epidemics, but in relatively uniform numbers year after year. If they are to be considered sporadic cases of the epidemic form, the disease must be considered endemic.

117.—Serum Therapy.—Shoup discusses the subject of serum therapy, its theories and those of immunity, and says that we are now, as physicians, past the point of following implicitly the direction of the pathologic laboratory, as clinic experience has added to our knowledge. He calls attention to the fact of some of the inconveniences and awkward symptoms that have followed the use of antitoxin, and reports three cases of the use of antistreptococcus serum. In all cases there was decided benefit following the administration, but in one there was very high temperature four hours after injection and a decidedly critic condition calling for heart stimulants. In another, an attack of subacute rheumatism followed five days after the injection, which he attributes to the serum. He thinks that the antistreptococcus serum as now prepared is altogether too bulky and should be prepared in a more concentrated form.

118.—Headaches and Nervous Symptoms.—Mills thinks that the cases of headaches due to some abnormal condition of the blood, nasal abnormalities, etc., form a very small portion of the total. He thinks that refraction errors are responsible for a large proportion and play a far more important part in nervous headaches than is generally supposed. He reports seven cases re-

lieved by operation or proper adjustment of glasses. These are, he says, but a few of many cases which he could offer to show the relief derived from tenotomy.

119.—Recent Scientific Literature.—The article of Dr. Howard's is a criticism of the false modesty which condemned Dr. Havelock Ellis' work in England last year, in the well-known Bedborough case.

120.—See page 1325.

121.—Obscure Causes of Disease.—Gleason's paper is a discussion on the subject of auto-intoxication as a cause of disease, the special forms mentioned being those of gout, uric acid, rheumatism, which is considered by one theory as a disorder of malassimilation, diabetes mellitus and acetonuria.

122.—Rubeoliform and Other Eruptions.—Sobel points out the value of the Koplik sign as a differential diagnostic symptom of measles in distinguishing it from rubella, antitoxin rash, erythema multiforme, urticarial eruptions, generalized vaccinia, drug eruptions, pityriasis maculata, etc.

123.—The Midwifery Question.—Hillis' article explains the popularity of the midwife among the poorer classes and criticizes the criticisms that have been made about her. He compares her usefulness to that of the female doctor, somewhat to the disadvantage of the latter, and questions any justice in compelling people to employ the services of a physician, either male or female, as opposed to the employment of a midwife.

FOREIGN.

British Medical Journal, May 20.

Series of Cases of Arthrotomy for Relief of Pain and Removal of Synovial Fringes, Loose Bodies and Fibrocartilages. C. B. LOCKWOOD.—This paper begins with a report of four cases of operation on the wrist-joint for the relief of pain. Three of them were in women. The operations were opening of the joint and evacuation of the fluid, some of which contained flakes of lymph or was turbid, but not purulent in the true sense of the word. Relief from pain in all the cases was quite satisfactory. He had often performed similar operations for acute septic arthritis, but these were only for the relief of pain. In two cases, both females, the knee-joint was opened, and inflamed and elongated synovial fringes were removed, and in three cases osteoarthritic joints were opened with like good success, though in one there was considerable stiffness left, which he thinks detracts from the results. The paper closes with a description of two cases, one previously published and one new, where the knee-joint was opened for the removal of the internal semilunar fibrocartilage and two others are briefly mentioned. In these cases the trouble was more from stiffness and locking of the joint, and the operation was for this rather than for the relief of pain.

Interpretation of Skiagraph. E. MUIRHEAD LITTLE.—The author calls attention to the difficulties in the interpretation of the skiagraph. It should be borne in mind that the image produced is practically a shadow and subject to the same distorting influences as other shadows. The greater the distance of the sensitized plate or the fluorescent screen from the object to be examined, the greater the distortion and vagueness of outline. The aim, therefore, of the skiagrapher is to place the bone as near to and the Crooke's tube as far from the plate as possible. But this affects the power of the X rays so much that the distance is practically limited to a comparatively short one. In no part of the body, he says, are mistakes more likely to be made than in the skiagraph of pelvis and hips, and he shows a number of views of the same normal left femur taken under different positions of light, posture, etc., not by the Crooke's tube, but by an ordinary photograph of the bone to show the differences that will exist. His figures illustrate them satisfactorily.

Modification of Neisser's Stain for Diphtheria Bacillus. ALFRED C. COLES.—This paper gives a modification of Neisser's new method of double staining the diphtheritic bacillus so as to clearly show the contained granules. After films are spread on slides or cover-glasses, they are fixed in the ordinary way by heat or by immersion in ether and absolute alcohol. Neisser's acid methylene blue stain is now applied for ten to thirty seconds. After washing they are immersed in Gram's iodin solution or Weigert's modification, for ten to thirty seconds, again thoroughly washed and stained in the vesuvin solution for ten to thirty seconds, and lastly, dried and mounted in Canada balsam. He thinks the results of this method are decidedly better than by the Neisser method alone.

Lancet, May 20.

On the Respective Parts Taken by Urine and Feces in Dissemination of Typhoid Fever. P. HORTON SMITH.—This paper commences by alluding to the fact that the general consensus of opinion at the present time is that the feces are the principal means of the dissemination of typhoid fever. The author endeavors to sum up the knowledge of the subject and gives the results of personal bacteriologic observations. His methods can not be given in detail, but his general conclusions are that the stools of typhoid patients separate from the urine contain typhoid bacilli in fair quantities demonstrable by present methods, up to about the beginning of the third week. After this the number begins to diminish and they are not so readily found. If, however, a relapse occurs, it may be preceded by an increased appearance of typhoid bacilli in the feces, but during the greater part of the relapse and during the convalescence, they are not likely to be found. It follows, therefore, that stools of typhoid patients must always be regarded as highly infectious during the early stages of the disease, and they again become so in the commencement of the occurrence of a relapse. Their infectious character diminishes in the progress of the disease, but how soon they become absolutely harmless can not yet be said. The possibility of the urine being infectious in typhoid was suggested by the author in 1896, and in 1898 Richardson found the typhoid bacillus in nine out of thirty-eight cases of typhoid fever. Petruchsky also found typhoid bacilli in enormous quantities in three cases, their presence making the urine actually turbid. He also refers to Blumer's observations and states that he had obtained positive results in four out of twelve cases. He concludes that it can no longer be doubted that typhoid bacilli occur in the urine of certain of the patients, probably in about 25 per cent. of all cases. Generally, though present in sufficient quantities to be detected by bacteriologic methods, they are not usually in sufficient quantities to alter the naked-eye appearance of the fluid. In a smaller proportion, however, probably about 5 per cent. of all typhoid cases, the urine is rendered turbid by their presence. They are nearly always in pure culture. They first appear rather late in the disease, rarely, if ever, before the third week, and may make their appearance during convalescence. They can generally be found for weeks and even months. The character of the urine does not assist in diagnosing the condition unless it is turbid. It may contain no albumin, often contains but a trace, sometimes contains a good deal and sometimes has pus, all of which conditions occur quite apart from the presence of the typhoid bacillus in the urine. The prognosis of the case is not rendered more serious by the occurrence of this condition. Comparing the infectious character of the feces with that of the urine there are to be noted some differences. Typhoid bacilli are almost invariably present in the feces, but in only about 25 per cent. of cases in the urine. Typhoid stools are most dangerous in the early period of the disorder, while typhoid urine becomes dangerous toward its close. Typhoid stools may contain large numbers of the bacilli, but never in such excess as the urine. He concludes that as regards the relative danger of the two, we must give the palm to the urine. The stools are naturally readily detected and the slightest soiling of the bedding and linen is at once rectified, but this is not the case with the urine, and the chances of infection, therefore, are greatly increased. In conclusion, he refers to Richardson's latest article in the *Journal of Experimental Medicine*, and the effects there reported of urotropin in causing the disappearance of the bacilli from the urine.

Treatment of Insanity by Various Animal Extracts. ARTHUR W. WILCOX.—In this paper the author reports a number of cases of insanity treated by animal extracts, ovarian, cerebrinin, didymin and thyroid, all in five grain tablets. In all cases due precautions as to bodily conditions, diet, etc., were taken. The beginning daily dose was 15 grains, increased daily by 15 grains until 60 grains had been given. Treatment was usually continued for five, six or seven days, and longer if thought desirable. Five cases in which ovarian extract was employed were those in which there was complete amenorrhea. In three of these there were good results after re-establishment of the menses; one case is still improving and in one no effect was produced. In the cases of female epileptics treated by cerebrinin tabloids, the results were not especially favorable. In one case there was decidedly an increase in fits. No better results were obtained from the treatment of male epileptics by the extract of didymin, and he does not feel encouraged to use either of these substances further. In regard to thyroid treatment, he has but little to say. In few of the cases was there even a temporary improvement.

Infection of Tubercle from Song-Birds a Fertile Though Unsuspected Source of Phthisis. A. TUCKER WISE.—The author, while engaged in an inquiry as to the source of infection in certain cases, was struck by the number of patients who had lived in contact with diseased canaries and other feathered pets. He thinks feeding and nursing sick birds, blowing the dust and husks from their seed and cleansing the cage are not without danger. He also mentions the infection from parrots, which has

been so disastrous in some epidemics in France. Considering the unnatural life which we give these pets in their cages, it is not remarkable that they should suffer from such diseases as tuberculosis. He has found, on clinic inquiry, some remarkable coincidences of the occurrence of tuberculosis in families that have kept birds in the house, and believes that a number of healthy, sound individuals contract disease from this origin. He reports ten cases in which he thinks he has seen this cause the contagion. Although doubt has been expressed regarding the identity of avian and human tuberculosis, more recent investigations tend to show that both are produced by the same species, only modified by their respective modes of nutrition, and that canary birds and other pets suffering from tuberculosis may convey the disease in innumerable possible ways.

Medical Press and Circular (London), April 26 and May 3.

Deaths After Abdominal Celiotomy. W. J. SMYLY.—The author classifies the causes of death after celiotomy as follows: shock, hemorrhage, ileus, uremia, inanition, tetanus, embolism and sepsis. The causes of shock are not exactly clear, but it is generally in direct proportion to the manipulation and duration of the operation, especially when long exposure and manipulation of the intestines occur, much blood is lost and the body is generally cooled. Its treatment principally consists in warming up the operating-room, reducing hemorrhage to a minimum, watching carefully for and meeting any symptoms of depression. Injection of sterilized salt solution after the manner of Kelly of Baltimore is, he thinks, a matter of importance. The patient should be placed in a warm bed, heat applied, and brandy, ether or strychnia given hypodermically. Ileus is a serious matter and one of the greatest disappointments met with in abdominal surgery. Much of the difficulty exists in the diagnosis, an early one being often impossible. Thrombosis is due to septic infection or some obstruction to the circulation. As it is a potential embolism, the patient should be cautioned against violent efforts and straining for some time after abdominal operation. The author has had no personal experience with tetanus. Regarding peritonitis, he is inclined to believe that it is not always sepsis. It may occur when the intestines have been long exposed or much manipulated, without any infection existing, as shown by Howard Kelly. The treatment recommended some years ago by Lawson Tait, i. e., free purgation, is, he believes, a recognized method at the present time. Septic infection must be prevented by perfect asepsis, and we must understand that anything coming in contact with the field of operation must be absolutely free from germs; this includes not only the operator, his assistants, instruments and dressing, but also the air and water. He places the most reliance in alcohol in after-treatment of septic cases, and concludes with the advice of Doyen, to operate quickly and thoroughly.

Notes on Four Cases of Intussusception. ALBERT E. MORRISON.—In the first recovery occurred without operation, the patient passing about twelve inches of intestine which had sloughed away. The second case was seen too late for any operation and died a few hours after. It was a good example of a case allowed to run its natural course with the usual results. The third and fourth cases illustrate the failure of injection. The third shows the disadvantage of postponed, and the fourth the advantage of early operation. Morrison believes that as taxis is going out of date with strangulated hernia, such methods as injection will be less used in the future treatment of intussusception. Early operation in both is safest and most satisfactory.

Notes on the Plague. SIR CHARLES A. GORDON.—The author notes the data and opinions that have been advanced in regard to the disease. They are somewhat contradictory in some respects, some holding that the disease is endemic and others as imported. The native races are apparently about alike in their susceptibility, and there is no special seasonal aspect as to the outbreaks. The spread is attributed to various causes which seem very erratic. In some cases it was attributed to animals, rats, monkeys and squirrels. The effects of inoculation were variously reported on. No special form of treatment seems to have any particular evidence in its favor. In some instances segregation of patients was said to be successful, but in others was described as injurious. The same is said in regard to disinfection. Sanitation was not always effective and sometimes the epidemics ceased irrespective of any of these measures. These notes are made largely from newspaper accounts and not from authorized expert investigators.

Archives Orientales de Medecine et de Chirurgie (Paris), April.

Forcible Reduction of Curvature of Spine.—An article was published in the March number containing the description and illustrations of the method of forcible reduction of the hump practiced by Avicenna in the ninth century, the physician sitting or jumping on the back of the subject, taken from a work recently unearthed at Cairo. An epigram from the Greek anthology is also mentioned, on the death of a man whose hump Diodorus had promised to reduce, which he accomplished with three heavy stones, making the back as straight as a ruler, but killing the subject. The April number contains M. Bilhaut's latest results with the modern revival of forcible reduction, showing cuts of children before and after a sufficient length of time has elapsed for the gratifying final results to be determined, six months or more after all apparatus has been discarded. He has had no deaths nor aggravation in his last 100 cases. The weight of the child alone, suspended by the head, is sufficient to reduce the hump in fresh cases. The fixation in the normal attitude is perfect.

Journal de Medecine de Paris, May 14.

Morphinomania. A. LUTAUD.—Many persons voluntarily apply for treatment in special establishments, but their will is not strong enough to carry the treatment through to a successful termination, and they leave with nothing accomplished. Lutaud urges legislation which will authorize the detention in the sanitarium of those who voluntarily apply, until sufficient time has elapsed for a cure to be effected. This is especially necessary in the case of abusers of cocain, as they may become as violent as persons in an acute stage of alcoholism.

Presse Medicale (Paris), May 13 and 17.

Traumatic Perforation of Stomach. R. LE FUR.—A case reported, requiring ligature of a small artery on account of threatening hematemesis, emphasizes the aseptic and otherwise favorable conditions for spontaneous cicatrization which prevail in this organ.

Cerebral Theory of Cheyne-Stokes Respiration. RABÉ.—The writer concludes this review of the facts cited by various authors to prove a cerebral instead of a bulbar origin for Cheyne-Stokes respiration, by asserting that it is now established that if there is respiratory activity in excess of what is needed for ordinary pulmonary ventilation (Mosso's "respiration de luxe"), superadded to a functional hyperactivity of the hemispheres, cerebral insufficiency, whether experimentally produced or due to a pathologic process, induces slower respiration, "simple respiratory delirium." The respiration may become so slow as to assume a periodic type. When the Cheyne-Stokes' respiration appears in diseases or intoxications, it is always preceded by indications of profound cerebral inhibition, loss of the encephalic nerve influx. It frequently happens that parallel to the successive phases of the Stoke's cycle a number of other symptoms are manifested, proceeding from different spheres of nerve activity, and that these symptoms undergo regular rhythmic eclipses of their excitability, and that the periods of intensity and repose alternate exactly synchronously with the stages of polypnea and the respiratory pauses. One and the same functional deviation, one and the same periodic nerve disturbance, followed by a period of repose, governs the excitability of the cortex and of the central gray nuclei. It follows that the respiratory function, directly under the influence of the conditions of excitability of the gray covering of the hemispheres, undergoes the same rhythmic oscillations in its activity, and the Cheyne-Stokes' rhythm becomes one of the elements of the periodic syndrome.

Subarachnoidean Injections. A. SICARD.—Experimental research on over 150 dogs, and clinic experience in a number of cases, enable the writer to positively affirm the absolute harmlessness of lumbar puncture and the possibility of utilizing it in therapeutics. He finds that salt solution or serum can be introduced into the cerebrospinal fluid in quite large amounts without any intense or persistent meningeal reaction (200 c.c. in a medium-sized dog). Another point established by these researches and Bier's cocainization of the spinal cord (see JOURNAL, p. 1169) is the slowness of the diffusion of an active substance introduced into the subarachnoid space, either cerebral or spinal. It remains at the injecting point, sinks or rises, according to its nature, density, the quantity or the rapidity of the injection, obedient to the laws of gravity, etc. Oily or gaseous substances rapidly make their way up to the brain, while heavy substances sink. The most effective technic is with a sacrolumbar puncture, more sacral than lumbar, at the lowest point of the dural cone. In two cases of violent tetanus 40 and 60 c.c. of antitetanic serum were thus injected without any bulbar symptoms or pain. The patients survived three days before succumbing to their intense infection. In another case of rapidly progressive general paralysis with epileptiform seizures, rebellious to all treatment, 25 centigrams of potassium bromid mixed with 5 to 6 c.c. of cerebrospinal fluid freshly obtained by lumbar puncture, were combined with 2 c.c. of pure oil and injected. There was quite severe cephalea for three days, slight nausea during the first night, temperature

of 38 to 39 C. for two days. By the fourth day all morbid symptoms had passed away and with them ceased the epileptiform seizures. The latter recurred two weeks later, as frequent as before. The patient died in seven weeks, from bronchopneumonia, and at the autopsy droplets of oil were found, especially numerous in the frontal cornua of the lateral ventricles, and the cerebral cortex felt greasy to the touch. There was no superproduction of cerebrospinal fluid. Further tests are now in progress with solutions of bromid, iodin and cocain in cases of cerebrospinal syphilis, severe epilepsy, rebellious sciatica and tabes, with fulminating attacks in the lower members.

Semaine Medicale (Paris), May 17.

Pathogenesis of Gastro-Intestinal Infections in Young Children. P. NOBÉCOURT.—The author ascribes many of these infections, and particularly the chronic, to the association of the coli bacillus and the streptococcus. Alone each is harmless, but combined in a certain proportion they produce infection. Animals inoculated with each separately at different points were unaffected, but when inoculated with the two combined, infection invariably followed. The streptococci then gradually disappear until nothing but the coli bacillus can be found, although infection would not have occurred without their presence at first. Possibly the pyocyaneus, mesentericus or proteus may also produce infection by association with the bacillus coli in the same way. He mentions finding pure cultures of the streptococcus in some samples of milk sterilized with the Soxhlet, and spores of the mesentericus after a temperature of 100 C., showing that these secondary microbes may easily find their way into the intestines in sufficient numbers. "The significance of this streptobacillary association and its prophylaxis are most important questions."

Grece Medicale (Syra), December to April.

Paludic Diathesis in the Caucasus. T. TRIANTAPHYLLIDES.—In this comprehensive study of the conditions which follow malarial fever or may exist without any acute manifestation of malarial infection, the chapter devoted to the symptoms describes the morbid psychic state and the latent neurasthenia. The vasomotor troubles, vertigo, either simple or accompanied by vasomotor cardiopulmonary troubles or disturbed general sensibility (Krishaber's cerebrocardiac neurosis), which frequently lead to gross errors in the diagnosis, as also occurs with many other of the manifestations, especially the neuralgias, often mistaken for gout, uterine or vesical affections. Labial herpes, urticaria, symmetric eczema and other trophic disturbances, impotence from local paresis of the vasodilators, and the respiratory, digestive and genito-urinary disturbances, all are caused by disturbances in the innervation, the digestive troubles usually the expression of a neurosis of the solar plexus. Purely functional at first, they may end in permanent organic changes. Diarrhea may be the first and only manifestation of the diathesis and, easily curable in the early stages, will, if unchecked, lead to an incurable enteritis, which is identic with "tropic diarrhea." Periodic asphyxia of both hands every morning was noticed in one case, disappearing at noon. His observations show that there is scarcely any affection of any organ that this diathesis may not simulate, and yet all can be rapidly cured if correctly diagnosed and treated in time with quinin and appropriate symptomatic and pathogenic measures. Any one of the various troubles mentioned may be and remain the primary and unique manifestation of the diathesis. A constant sign is the painful sensibility to pressure of the umbilic region a little to the left, and the right kidney is frequently lower than normal. Hypodermic injections once a day of 0.60 to 1 gram of quinin ("bimuriatic"), are much more effective than any medication per os.

Mittheilungen aus der Medicinischen Facultat (Tokio), 1899.

Diagnosis of Cancer of Stomach and Tuberculous Peritonitis. M. MIURA.—"The discovery by rectal palpation of one or more metastatic nodules in Douglas' pouch will confirm the diagnosis of a malignant neoplasm in the stomach or abdominal cavity." "Tuberculous infiltration of Douglas' pouch is also an early symptom of peritonitis tuberculosa, easily palpated through the rectum."

Revista de Medicina y de Cirurgia (Havana), April 25.

Surgical Intervention in Wounds from Firearms. E. NUNEZ.—The writer details his experiences during his three years' campaigning with the Cuban forces. He observes that mutilating operations are destined to disappear altogether from military surgery, and emphasizes the necessity of prompt laparotomy with perforating wounds of the abdomen. He ascribes the benignity of "simple" wounds nowadays to the skill of the surgeon, asepsis and antisepsis, rather than to the small size of the bullets, and considers the indications for exploration and extraction of a bullet extremely limited, and that its retention in the tissues does no harm in most cases.

Centralblatt f. Chirurgie (Leipsic), May 20.

Suggestion for an Easily Removable Buried Suture. R. MINERVINI.—Two threads are used, one very long, of fine silk; the other

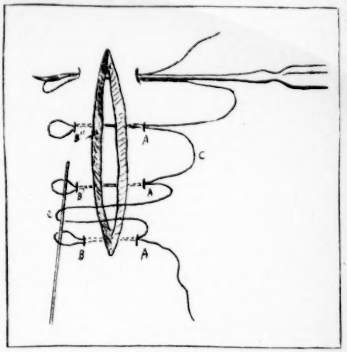

FIGURE 1.

not much longer than the wound, but very stiff and straight, of stout silkworm gut or wire. The soft silk is used for the suture, making a row of loops like a sewing machine stitch through both lips of the wound, the thread very loose. The stiff gut or wire is then passed through these loops on the farther side, and also through the broad, slack loop left between the stitches, brought over from the other side between each of the small loops, making a double W with the four stitches in the tissues. The loose thread is then drawn tight

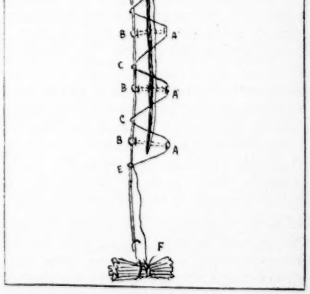

FIGURE 2.

after the upper end is fastened over the top of the wire or gut. The other end is brought out through the lower angle of the cutaneous suture with the end of the gut. When the straight, smooth gut or wire is removed, the fine thread pulls out without the least difficulty. The pressure on the tissues is minimal and experiments on dogs have confirmed the advantages of this method of suture. The outer integument is not shown at all in the illustrations.

Muenchener Medicinische Wochenschrift, May 16.

Treatment of Deafness in Pneumatic Chamber. G. v. LIEBIG.—Hovent claims that nine out of ten adults with chronic deafness, treated in vain by other methods, are materially and permanently improved by treatment with compressed air, and four out of five children (138 cases). The pressure should be higher than in the ordinary pneumatic chamber. The effect is probably due to the emptying of the veins and capillaries of the ear which have been chronically dilated, and this effect may extend to the portions within the cranial cavity. Liebig reports three personal cases extremely improved in regard to their hearing, who were being treated in the chamber for some

other affection. Sandahl reports 114 cases followed. Sixty-two were cured or extremely improved. No improvement was perceptible in fifty-two.

Dermatologisches Centralblatt (Berlin), May.

Inhalation of Mercury as a Factor in Cure of Syphilis. A. LIEVEN.—The comparatively recent idea that the fumes inhaled materially assist the cure, has received an unexpected endorsement from the practice of the natives of Sumatra who cure syphilis by pouring a little pure mercury into one hand and rubbing it with the other until evaporated, carefully observing the precaution to remain seated, never lying down during the entire course of treatment, as they assert that the disease is especially malignant if the subject lies down. In a reclining position the effect of the fumes would be entirely lost in the airy native huts, and they have empirically discovered their importance.

Societies.

COMING MEETINGS.

Colorado State Medical Society, Denver, June 20.
Indian Territory Medical Association, So. McAlester, June 20 and 21.
Massachusetts Medical Society, Boston, June 13.
Medical Society of Delaware, Wilmington, June 13.
Minnesota State Medical Society, Minneapolis, June 21.
New Jersey Medical Society, Deal Beach, June 27.
Oregon State Medical Society, Portland, June 13 and 14.

Congress of German Physicians and Naturalists.—The seventy-first congress is to convene at Munich, September 11 to 16. A special section has been organized for medical history and geography.

New Mexico Medical Society.—At the eighteenth annual session of this society, held in Albuquerque, May 30, officers were elected as follows: president, G. S. Easterday, Albuquerque; secretary, W. G. Hope, Albuquerque.

Elkhart County Medical Society.—At the annual meeting of this society, held in Elkhart, Ind., May 25, the following officers were elected: president, J. A. Work, Elkhart; vice-president, Dr. Dutro, Bristol; secretary, H. O. Statler, Goshen.

Society of Washington Ophthalmologists and Otologists.—At the annual meeting for the election of officers recently held in Washington, D. C., the following were elected: president, J. H. Bryan; vice-president, Wm. H. Wilmer; secretary, E. O. Belt.

Indiana State Medical Society.—On June 1 and 2, at Indianapolis, the semicentennial of this State society was held. The following officers were elected: president, Walter Schell, Terre Haute; vice-president, Samuel Kennedy, Shelbyville; secretary, F. C. Heath, Indianapolis; assistant secretary, John B. Fattic, Anderson; treasurer, A. E. Bulson, Ft. Wayne. The next annual meeting will be at Anderson.

Oklahoma Medical Association.—The seventh annual session of this association was held in Oklahoma City the last week of May. The next meeting will be in November at Guthrie, at which time the constitution and by-laws will be adopted. The election of officers resulted as follows: president, C. B. Bradford, Oklahoma City; vice-president, Chas. W. Fisk, Downs; secretary, B. F. Harriman, Chandler.

American Gynecological Society.—The twenty-fourth annual meeting of this society was held in Philadelphia recently. The address of welcome was made by Dr. Edward L. Duer. The following officers were elected: president, George Engelman, Boston; first vice-president, E. L. Duer, Philadelphia; second vice-president, S. C. Gordon, Portland, Me.; secretary, J. Riddle Goffe, New York City; treasurer, J. Montgomery Baldy, Philadelphia (re elected).

American Electro-Therapeutic Association.—The ninth annual meeting of this association will be held in Washington, D. C., Sept. 19-21, 1899, under the presidency of Dr. F. B. Bishop of Washington. Aside from the sessions of the association, the committee has completed arrangements for a trip to Mt. Vernon, one to Arlington, and several other social features. The headquarters will be at Willard's Hotel, where special rates will be given to members and their families during the meeting.

American Dermatological Association.—This association has just held its twenty-third session in Philadelphia, and elected the following officers: president, H. W. Stelwagon, Philadelphia; vice-president, G. T. Jackson, New York; secretary and treasurer, Frank H. Montgomery, Chicago. The next meeting will be held in Washington, D. C., in May, 1900, and will be considered a part of the Congress of American Physicians and Surgeons, which will be in session there at that time.

International Association of Railway Surgeons.—The following officers were elected at the recent meeting of this association, held in Richmond, Va., the first days of June: president, Alfred J. Bouffleur, Chicago; vice-presidents, Thomas A. Manley of New York, N. P. Shinkle of Mississippi, N. J. Pettijohn of Maryland, H. P. Merrill of Maine, W. L. Hoy of Ohio, F. H. Drake of Canada, N. C. Moore of Iowa; secretary, Louis J. Mitchell, Chicago; treasurer, Eugene R. Lewis, Kansas City, Mo.

American Surgical Association.

Abstract of Proceedings of Twentieth Annual Meeting, Held in Chicago, May 31, June 1 and 2, 1899.

TECHNIC OF LARYNGECTOMY.

President W. W. KEEN of Philadelphia chose this subject for his address. He began by saying that he has been ill satisfied with the usual technic of laryngectomy, and as in a recent case he adopted a method which rendered the operation one of simplicity, caused but little loss of blood and little shock, and avoided the danger of aspiration pneumonia, he ventured to bring it before the association in the hope that it will be tested by others so as to determine its real value. Instead of being a very severe and dangerous operation, as it has hitherto been regarded, he hopes this will place it in the category of safe operations.

Nearly all authors, whether surgeons or laryngologists, speak of the operation as an extremely severe and dangerous one, and this view is warranted by its past high mortality. Thus Rutsch speaks of the "recovery as very doubtful." Sendziak states that up to 1881 thirty cases had been operated on with seventeen deaths, a mortality of 56.7 per cent., and that in all the thirty there was only one definitive cure, that is, in which three years or more had passed without recurrence. Later statistics, fortunately, have proved progressively more favorable. Thus Sendziak tabulated from 1873-1894, 188 cases of laryngectomy for carcinoma. The results are thus tabulated: 1. Recurrence, 32.45 per cent. 2. Relative cure (less than three years), 6.9 per cent. 3. Definitive cure (three years or more), 5.88 per cent. 4. Death, 44.7 per cent.

Schmiegelow has tabulated fifty cases of total laryngectomy from 1890 to 1897, and these still later statistics are far from encouraging. His table shows: 1. Recurrence 20 per cent., a fall of 12 per cent. from Sendziak's table. 5. Relative cure, 48 per cent., a rise of 41 per cent. from Sendziak's table. 3. Definitive cure, 10 per cent., nearly double that of Sendziak's table. 4. Death, 22 per cent., one-half that of Sendziak's table.

The mortality, it will be observed, therefore, has been halved and the definitive cures doubled, as compared with Sendziak's statistics. Were the cases occurring from 1890 to 1894 excluded from Sendziak's statistics the relative difference would be even more favorable.

The causes of the mortality are chiefly: 1, weakness of the patient by reason of the disease, the poor aeration of the blood and the entrance of septic discharges from the diseased larynx into the lung before the operation; 2, shock, including hemorrhage during the operation, and 3, after the operation, septic pneumonia, due to the aspiration of infected wound fluids. This is the greatest danger of all. The sources of these wound fluids are twofold: First, the tracheotomy wound, if as is usual, tracheotomy has been done; and secondly, the wound left by the removal of the larynx. These wound fluids are usually infected from the food, the secretions of the mouth and the packing by iodoform gauze which renders primary union impossible.

While the method which he wished to describe did not obviate the weakness or any other unfavorable influence from the general condition of the patient prior to operation, it minim-

izes the other causes of death, and especially the possibility of pneumonia.

He can not claim originality for any one of the steps, for they have all been employed, he believes, by others. Thus Bardenheuer closed the communication between the trachea and the pharynx, but he only kept it closed until the wound became covered with granulations, and complications were no longer to be feared, say fourteen days. The communication was then reopened for the insertion of an artificial larynx. After adopting this method he had had four recoveries, while by the former method he had had four deaths. Cohen united the stump of the trachea to the skin, one of the most important improvements in the technic, since it prevents in a large measure the access of wound fluids to the lungs. Other surgeons also have used the Trendelenburg posture, etc. But as a systematically planned operation, combining many advantages, the present technic as a *tout ensemble* may be called original.

1. The general preparation of the patient is the same as for any other operation.

2. As in all cases about the mouth, nose, pharynx and larynx, he is particularly careful to make a systematic attempt for two or three days beforehand to secure at least partial disinfection. While partial disinfection is not as good as complete, yet the results in treatment of fractures of the base of the skull, in the extirpation of rectal tumors, etc., shows its great value. He has the teeth very carefully cleansed by the tooth-brush. If there are any old stumps of teeth present it is better that they should be extracted, and the operation deferred a few days until these dental wounds heal. For two or three days before operation, every two hours, when the patient is awake, he has the mouth and each nostril sprayed separately with a solution of boric acid, listerin, or both.

3. Nearly all authors recommend a tracheotomy either as the first step of the operation or more frequently ten to fourteen days before operation. In the few cases in which dyspnea is great he should be disposed to do a tracheotomy, say two weeks before the laryngectomy; not, however, with a view of preventing the entrance of blood and wound fluids into the lungs by the introduction of a tampon canula, but for the purpose of improving the general condition of the patient. In the case which is the basis of this paper he did a tracheotomy at the time of operation, but removed the tracheal tube at the termination of the laryngectomy, immediately closed the wound in the trachea, and obtained absolutely primary union. In any future case he is strongly of opinion that it would be better to omit tracheotomy entirely. As he would show, it was not, in his opinion, needful, and by omitting it we would eliminate one cause of septic pneumonia.

4. The entire operation, after the trachea is invaded, is done with the patient in the Trendelenburg position. He is quite persuaded that the majority of surgeons do not appreciate to its full the advantages which this posture possesses in all operations about the upper air-passages. As he had pointed out in a previous paper, he employs it in epithelioma of the lip, in extirpation, or other operation on the upper and lower jaw, in removal of the tongue, in cleft palate, in operations on the tonsils and pharynx, and all similar operations. Blood will not run up hill any more than water, hence, if we employ this posture in laryngectomy, we avoid one of the chief reasons for tracheotomy and the employment of a tampon canula.

The disadvantages of tampon canulæ are very great. Kocher, like himself, has lately dispensed with them entirely. The three most commonly used are those of Trendelenburg, Hahn, and Gerster. Of the three, Gerster's is distinctly, in his opinion, the best. It can be more accurately adapted to larynges of varying sizes, and is much less likely to injure the parts either by undue pressure or by difficulty of introduction. In one case, in his attempts to introduce a Hahn canula, the rings of the trachea were considerably torn. The objections to Trendelenburg's canula are: arrest of respiration, which sometimes follows its introduction: the production of pressure gangrene in the trachea, obstruction to the lower end of the tube by the rubber ballooning into the trachea beneath it, the bursting of the rubber or its being cut, and if none of these mishaps occur, the air often gradually escapes and thus renders it useless.

The Hahn canula can not be made aseptic so easily as the others; and as Lennox Browne has pointed out, it requires sometimes twenty minutes for the expansion of the sponge after its introduction.

5. Anesthesia is at first done through the mouth, and is so continued until the larynx or trachea is invaded. A large tracheotomy canula (12 millimeters in diameter) is then introduced, and held in place by disinfected tapes tied around the neck. The inner tube of this canula is removed and the metal tube of a Hahn canula, which precisely fits it, introduced. A rubber tube connects this with the ordinary funnel for the administration of chloroform.

6. The operation proper, he described in connection with the case reported, and then indicated the improvement in technic which he purposed adopting in the next case he might have.

7. The after-treatment.

a. Posture.—The patient is kept in the Trendelenburg position by placing a chair under the foot of the bed. This posture prevents any wound fluids from running down (or rather up) into the lung. This position is to be maintained for one day. On the second day the bed is lowered to the horizontal plane. On the third day he is allowed to sit up in bed on a bed-rest; on the fourth, to get out of bed and sit in a reclining chair, and on the fifth day he may walk about the room.

b. Food.—For two days nutritive enemata only are to be used. After that a teaspoonful of liquid food is given, at first every half hour, always followed by a tablespoonful of sterile water to wash away any food that might possibly leak into the laryngeal wound. At the end of a week full diet as to quantity may be given, but no solid food is to be given until the tenth day. No catheter or esophageal tube is required. The present patient could swallow from the very first.

c. Dressing.—The primary dressing was described in connection with the case. On the day after the operation the small gauze drain is to be removed. Half of the stitches may be taken out on the fourth day and the remainder on the sixth day. In the case reported the temperature on the day after the operation rose to 101.8 F., and fluctuated between the normal and 101 for a week, when it fell to the normal.

8. The only objection to this method, which occurred to the author, is that it absolutely precludes the use of any artificial larynx. But the possession of voice is nothing when compared with a speedy recovery and a greatly diminished danger of a fatal result. Rutsch believes such a larynx is very unsatisfactory. The author recognizes the fact that one case does not prove the value of any method, but its advantages were so striking in this case that, as laryngectomy is a relatively rare operation, he has not thought it best to wait until he could accumulate a much larger experience before bringing it to the attention of the profession.

9. As to final results, it is too early to draw any inference as to the possibility of recurrence in this particular case; nor is this his purpose. His intention has been rather to demonstrate a method of laryngectomy which would diminish more especially the immediate mortality of the operation and secure speedy recovery by primary union. The chances of recurrence are no greater, nor yet any less, after operation by this method than by any other. This particular patient has been able to go out in all weathers during the past extremely severe winter, though living as far north as Waterville, Me., where the thermometer has been many degrees below zero.

At the conclusion of the president's address, a symposium on

SURGERY OF THE SPANISH WAR

was taken up.

FIRST-AID PACKAGE IN MILITARY SURGERY.

Dr. NICHOLAS SENN, Chicago, read the first paper, and stated that two things were brought out clearly during the Russo-Turkish War, namely, the value of a first-aid antiseptic occlusive dressing in the prevention of wound infection, and the importance of immediate immobilization of compound gunshot fractures. Dr. Senn suggests the following first-aid package for field use and emergency work: two pieces of lintin, a form of compressed cotton, four inches wide and sixteen inches long, sterilized and folded twice lengthwise; a teaspoonful of the borosalicylic powder in a small waxed aseptic envelope; between them a piece of sterile gauze, forty-four inches square, with two safety pins, folded to corresponding size with the lintin compress; all of these articles wrapped in tin-foil; two strips of rubber adhesive plaster, an inch wide and eight inches long, the whole to be sewed in an impermeable canvas or linen cover. In using the package the powder is applied to the wound, when the lintin is used as a compress, held in place by the strips of adhesive plaster, and the gauze bandage over it. If two wounds are to be dressed at the same time, as is usually the case in modern warfare, the contents of the package are equally divided and used, which can be done without materially impairing the efficiency of the dressing. The slight hemorrhage in wounds inflicted by the small-caliber bullet will soon saturate a part of the dressing, which by evaporation will soon convert the antiseptic powder and the cotton into a dry, antiseptic crust, the very best protection for the wound against infection. Many military surgeons have expressed themselves recently as being opposed to the employment of the first-aid package by anyone else than medical men. This position Dr.

Senn thinks will be found untenable during any great war, when the number of wounded would greatly exceed the working capacity of the limited number of surgeons.

In summarizing, the following conclusions were emphasized:

1. First-aid packages are indispensable on the battlefield in modern warfare.

2. The first-aid dressing must be sufficiently compact and light to be carried in the skirt of the uniform, or on the inner surface of the cartridge or sword belt to be of no inconvenience to the soldier or in conflict with military regulations.

3. The Esmarch triangular bandage is of great value in the school of instruction, but in the first-aid package it is inferior to the gauze bandage.

4. The first-aid package must contain, in a waxed, aseptic envelope, an antiseptic powder, such as borosalicylic powder, sterilized pins wrapped in tin-foil, and between this package and the outside impermeable cover, two strips of adhesive plaster an inch wide and eight inches long.

5. The first-aid dressing must be applied as soon as possible after the receipt of the injury, a part of the field service which can be safely entrusted to competent hospital corps men.

6. The first-aid dressing, if employed behind the firing line, should be applied, without removal of the clothing, over the injured part, and fastened to the surface of the skin with strips of rubber adhesive plaster, the bandage being applied over and not under the clothing.

7. The first-aid dressing must be dry and should remain so by dispensing with an impermeable cover over it, so as not to interfere with free evaporation of the wound secretion.

8. The first-aid dressing should not be disturbed unnecessarily, but any defects should be corrected at the first dressing station.

BATTLESHIP IN WAR.

Dr. N. M. FEREBEE, medical inspector of the United States Navy, Norfolk, Va., read a paper on this subject. He described a modern battleship, spoke of the preparation for, and the conditions during, war. He also narrated his experience with modern rifle bullets and with shells, and closed his paper by detailing interesting cases.

ORGANIZATION AND EQUIPMENT OF MILITARY FIELD HOSPITALS.

Dr. GEORGE R. FOWLER, Brooklyn, read this paper. Under the head of organization the essayist dealt with executive offices, dispensary, property office, post-office, quartermaster's office, commissary office, medical ward, surgical ward, operating tent or pavilion, pathologic and bacteriologic departments, cooking department, diet kitchens, sanitary and disinfection departments. In referring to location and arrangement, he spoke of the importance of selecting a suitable site, and then dwelt on soil, drainage, arrangement of the wards, sinks, and emphasized the importance of cremating garbage and typhoid excreta.

In referring to equipment, he spoke of tentage, pavilions, furniture, linen, medical supplies, anesthetics and antiseptics, instruments, sterilizers, operating-tent furniture, ligature and suture materials, dressing materials, splint material, and transportation facilities. Lastly, he dwelt at length on the personnel, which comprises executive and administrative officers, professional staff, ward officers, operating staff, ophthalmologist, aurist, dentist.

EFFECTS OF MODERN SMALL-ARM PROJECTILES AS SHOWN BY WOUNDED OF FIFTH CORPS.

Dr. CHARLES B. NANCREDE, Ann Arbor, Mich., followed with this paper. Reports show that about 1400 wounded were cared for at the hospital with which he was connected, for nearly all of the injured in this corps who survived for twenty-four hours sooner or later passed through their hands, so that flesh wounds, and those of a day to a week or more were observed.

Flesh wounds were always of a trivial nature, unless the ball became deformed by striking some extraneous object, or when stripping its mantle, as it sometimes did. This immunity enjoyed by the flesh wounds caused by Mauser and Krag balls resulted: 1, from the slight amount of contusion caused by the rapidly moving ball; 2, the aseptic condition of the ball, and, 3, the rarity of the carriage of fragments of clothing into the wound, as was not uncommonly done by the 43-caliber Remington, brass-mantled balls. If maintained aseptic, the majority of flesh wounds healed almost as if they had been incised wounds, not uncommonly cicatrizing under the primary field dressing made with the first-aid package.

Contusion or slight wounds of the great vessels leading to so-called traumatic aneurysms, or aseptic or septic sloughing of the vessels many days after the receipt of the wound, were far from uncommon. Thus, he saw one wounded subclavian where the patient survived over three weeks, to finally succumb to hemorrhage during an attempt to ligate the vessel, which was torn for a long distance. He also knew of another dying on the table some weeks after being wounded, during an attempt to secure the same vessel. He tied the common femoral for wounds and assisted a colleague in securing another, days after the receipt of the injury. He tied one radial for secondary hemorrhage and ordered the tying of an ulnar for ball injury several days after their division, and was compelled to amputate an arm after failing to secure a bleeding brachial in an apparently aseptic wound, two weeks after the man had been shot.

The greatest advance in military surgery on the battlefield in recent times is the first-aid packet, and the greatest boon conferred on the wounded soldier has been asepsis and antisepsis, because, in the majority of instances rendering his injuries so painless and their complication so slight, that even anesthetics no longer occupy the chief place as a blessing to the wounded, as they are comparatively rarely needed.

Antiseptic occlusion also proved the best treatment for most of the thoracic, abdominal and articular injuries.

All perforating ball-wounds of the abdomen operated upon, he was informed, perished, while a number he saw recovered without intervention, antiseptic occlusion being relied upon. Wounds of the liver and kidneys did not seem to give rise to dangerous infection in the small number treated. If section can not be done before peritoneal infection has become well established, both civil and military surgeons have long believed that poor as are the chances of recovery, they are lessened rather than increased by a section.

APPENDICITIS. *a.* SHOULD EVERY CASE BE OPERATED UPON AS SOON AS THE DIAGNOSIS OF APPENDICITIS IS MADE? *b.* SHOULD THE APPENDIX EE REMOVED IN EVERY CASE?

Dr. M. H. RICHARDSON, Boston, read a paper on this subject. At the bedside, in a specific case of appendicitis, there would doubtless be little difference of opinion among even those surgeons who seem to differ materially in the expression of their views. What one may describe as a severe case, another may regard as a mild one; what one may consider a hopeless infection, another only a desperate one, and so on. The conclusions arrived at are the result of experience in more than nine hundred cases, personally observed and treated, and of personal observation of many others in the practice of hospital colleagues. The total number is 904. In 259 cases of operation in acute cases, 72 died, 4 of those deaths from the hands of other surgeons; 189 acute cases were not operated upon. Of these 31 died, probably all moribund at the time of first examination. The total operations are 569, of which 238 were interval operations, without a death. Total number of operations in acute stage, 331; mortality in acute stage, 21.5.

Many of these fatal cases were desperate ones. All were severe. The mortality in acute cases without operation was fully 31 in 189 cases. But practically all these fatal cases were moribund and hopeless when first seen. Had all acute cases been operated on, the mortality after operation would have been reduced, because most of the acute cases not operated on would also have recovered with operation. In fact, most of the cases were operated on in the interval. Deductions from mortality tables are misleading. It would be as unfair to conclude that because a long series of bad cases had died after operation, therefore no operation should ever be performed, as to conclude that because practically all the reader's acute cases unoperated on recovered (excluding the moribund), therefore no operation is ever necessary.

There is a wise middle course by which unnecessary operations are avoided, and necessary ones are performed. In the initial stage severe symptoms of onset demand immediate intervention. These symptoms are pain, vomiting, tenderness, rigidity, shock—those common to most acute abdominal emergencies. In many cases these symptoms will subside, but the general trend of a case can not be determined at one observation. Exploration is therefore indicated. The surgeon must expect often to find other lesions than appendicitis at the initial stage, but lesions quite as important and often demanding intervention even more urgently. Cases of mild onset may well wait until a second observation shows the probable course of the case. Time thus spent is wisely spent.

The most important question is not whether to operate in appendicitis, but rather when to operate. In view of the great mortality after operation in severe cases, of the disadvantages following the drainage necessary in septic cases, weakness of muscles, stretching of scars, hernias and the like, the best time to operate is in the period of perfect health following the attack. In a large percentage of acute cases, recovery from the acute attack will take place, and operation can be safely performed through a small incision which will not weaken the

abdominal wall. Cases must not be watched, however, unless there are reliable signs of convalescence.

After the initial stage the question of intervention becomes more difficult; when observed for the first time on the second, third, or fourth days severe cases should be operated on at once, unless they are improving so rapidly that there is a strong expectation of complete recovery and interval operation. Intervention is still more strongly indicated if the symptoms are increasing in severity. Operation is indicated, too, if the symptoms after marked improvement recur as if, though moderate, they are not improving.

In the consideration of symptoms after the early hours, the character and extent of pain, tenderness and rigidity are important as determining the width and depth of the area of infection. The constitutional signs are less reliable than the local; they may be deceptive guides.

The chief objection to operating in every case is the danger of converting a localized into a general infection. Every case which at the time of operation has an uninfected general peritoneal cavity, and which dies with general infection after operation (and they are more numerous than we know) excites the doubt as to the wisdom of operating in every case. We know that very many cases of localized peritonitis recover and are successfully operated on in the interval; cases showing improvement in an enormous proportion go on to recovery and intermediate operation.

If the patient is improving with a successfully localized peritonitis of considerable extent, especially if centrally localized, as in the pelvis, let operation be postponed until intervention can be safely practiced, because these cases comprise, in the absence of general peritonitis, the most dangerous ones. Moreover, intervention becomes safer with a few hours' or days' delay in improving cases: 1, because the general exudate, so easily infected during operation, becomes absorbed; 2, because the local exudate diminishes in size; 3, because walling off with gauze is practicable when the adhesions are firm, impossible when they are thin; 4, operation at once ruptures the localized peritonitis, and starts the too-often fatal peritonitis. Moreover, the patient's general strength improves with the local improvement. If the patient is not actually improving, this serious danger must be deliberately encountered because the localized peritonitis will probably do so by itself, i. e., rupture, which is chiefly to be feared at operation. When there is a tumor situated to the right side, or directly under the abdominal wall, so that walling off with gauze is practicable, operation may be performed under conditions that would contraindicate intervention when the tumor is centrally located or in the pelvis.

Cases on the verge of the grave should obviously be let alone, on the ground that the simplest active intervention will turn the scales against the patient. In areas with firm walls, simple drainage by a small incision is preferable to removal of the appendix because of the risk of causing general infection by separating adhesions. Of 105 cases of simple drainage, all recovered but 2. Many were operated on subsequently for hernias and for removal of the appendix.

An attempt should always be made to remove the appendix whenever the peritoneal cavity is opened unless the patient's condition forbids long search. In many cases of abscess with firm walls, a slough will be found which on examination will prove to be a necrosed or exfoliated appendix. In such cases no subsequent operation for removal of the appendix will be necessary.

If, after recovery from simple drainage in acute appendicitis, there is evidence of renewed appendicular trouble, the appendix should be removed, the scar of the original wound incised and the wound carefully closed. This operation is especially desirable, if there is hernia in the scar, or even stretching or discomfort. Hernia of itself after all operations for acute appendicitis should be operated upon if it causes discomfort or disability. In very rare instances there may be a recurrence of infection in the region of the ileocecal valve, even after the removal of the appendix. In the writer's experience two such cases have been noted, one recovering from operation, the other requiring drainage.

Dr. JOHN B. DEAVER, Philadelphia, said that the paper had brought out many points on appendicitis about which an active warfare has been waged for some years. Upon the surgeon's individual decision at the bedside often depends the life of the patient, and in every case the very points about which the paper deals have to be faced and a decision made. As to the question: Should every case be operated on as soon as the diagnosis is made, his answer is yes, with two exceptions: 1, acute active general peritonitis; 2, collapse. Should the appendix be removed in every case of appendicitis? Yes, with the exception of those cases where the bowel forming a part of the abscess wall has undergone necrotic changes rendering the bowel friable and apt to rupture during the necessary manipulation.

Dr. Richardson has most wisely divided his first heading into two classes, those in which the diagnosis has been made in the early hours, and the speaker takes it for granted that he means within twenty-four hours, and those in which a diagnosis is made after this period of time has elapsed. In answer to the first question, Dr. Deaver most emphatically asserts that the early hours is the time *par excellence* for operation in this most serious of intra-abdominal affections: 1. Because practically all cases operated on at this time get well or at least give the lowest mortality, this mortality increasing with the interval between the onset of the attack and the time of operation. Thus, of 18 cases operated upon within the first twenty-four hours, only 1 died, a mortality of 5.5 per cent. Of 30 acute cases, on the other hand, operated on within forty-eight hours, 10 died, a mortality of 33.3 per cent. As far as his experience goes, a careful examination of the statistics of acute cases convinces him that the local pathologic changes reach by progressive stages their severest limit within the first forty-eight hours, and after that period the changes are more in the nature of sequelæ following the primary stage of infection. 2. The percentage of cases that have one attack and then remain perfectly well and free from other attacks is very small. Of 460 of his own cases, 312 had more than one attack. In fact, it seems to him unjustifiable to offer a patient the faint hope of any attack of appendical inflammation being the last.

Should we operate when the diagnosis is made after the early hours, if the symptoms are severe? He would say, that his experience has led him to the belief that symptoms are very unreliable and are not in proportion to, nor do they indicate the severity of the pathologic processes which are taking place in the abdomen. Many times he has opened the abdomen of a patient with a normal temperature, flat abdominal walls, and a quiet retentive stomach, in whom tenderness or deep pressure was the only sign of persistent trouble, and has found pus or a gangrenous and perforated appendix. The surgeon who waits in the case of appendicitis for the appearance of severe symptoms, or worse yet, waits until the symptoms increase in severity, for an indication to operate, will have many unnecessary deaths to his credit.

Should the appendix be removed in localized abscess with firm walls? The success in the removal of the appendix in a localized abscess with firm walls depends on the skill and the technic of the surgeon. Under these conditions the appendix should be removed, the only occasion for a difference of opinion being as to the time of its removal i.e., at the primary operation or at a subsequent operation. If the appendix can be removed at the primary operation without additional risk to the patient, it seems to him that this is the time of election. That it can be done without additional or any risk has been repeatedly demonstrated, and in his own practice he does it in nearly all cases, because in 257 primary removals his death-rate in the past has been 16.7 per cent., and in 13 secondary removals the death-rate was 30.7 per cent.

The reasons for the removal under these conditions are that surgeons do not subject their patients to the danger of an attack of acute appendicitis occurring before the secondary operation. There is less likelihood of fistulæ, either fecal or simple. The patient is cured with one operation instead of two, with the consequent saving of a variable period of invalidism for the patient.

When a patient's strength does not permit, a prolonged search for the appendix should not be attempted. It can hold but one of a few positions. It must be either postcecal, pointing into the pelvis toward the spleen, or confined in the ileocolic or subcecal or ileocecal fossa. If the appendix is imbedded in exudate, the exudate itself will indicate its position. He agrees with the essayist as to the necessity of the ultimate removal of the appendix, only differing from him in the length of time before the complete operation is performed.

Dr. CHRISTIAN FENGER, Chicago, indorsed in the main nearly everything that Dr. Richardson had said. He, however, disagreed almost entirely with the views expressed by Dr. Deaver.

Dr. FRANCIS B. HARRINGTON, Boston, thought there was very little difference of opinion between Dr. Richardson and Dr. Deaver. He said Dr. Deaver does not operate on every case; he considers the condition of the patient. If the patient is in collapse, he waits, and so do all surgeons. It is better to wait not only in cases of collapse, but in other instances. He likes to remove the appendix in every case where it is possible to do so. On the other hand there are certain conditions in which he is inclined to wait perhaps twelve or twenty-four hours, or even longer, before operating.

Dr. S. H. WEEKS, Portland, Maine, considers the teaching of Dr. Richardson safe. It must be remembered that most of

the members are teachers of surgery, and it is unsafe to instruct students to operate and remove the appendix in every case.

Dr. JOSEPH RANSOHOFF, Cincinnati, thought the doctrine advocated by Dr. Deaver would do a great deal of harm, if followed by most men who operate on cases of appendicitis. An important point to remember was this, that five-sixths of the operations for appendicitis are performed by general practitioners, men who had very little experience in handling the intestines, in dealing with abscesses within the cavity of the abdomen, etc.

Dr. NICHOLAS SENN, Chicago, said uniformity of practice in the treatment of appendicitis would probably never prevail. Each man formulates his own indications and follows his own rule of practice. Personally, he feels weakest in making an early diagnosis in the first attack. Dr. Senn narrated two instructive cases in which it was extremely difficult to make a differential diagnosis between perforative appendicitis and perforative typhoid ulcer, one of the cases being an honored colleague.

Dr. P. S. CONNER, Cincinnati, believes it is not wise to be governed in surgical judgment by the citation of one or two cases; neither is it wise to neglect the warning of a single case. While he does not operate on all cases, he believes in operating on suitable cases, and at the proper time, if it can be had.

Dr. DUDLEY P. ALLEN, Cleveland, removes the appendix in an increasing number of cases, but of those cases of abscess with sloughing of the wall in which he has not removed the appendix he recalls but three that did not heal of themselves. He had seen fecal fistulæ follow a considerable number of cases, some of which had persisted, but others had healed of themselves.

Dr. RICHARD H. HARTE, Philadelphia, favors the removal of the appendix in cases of early operation. He thinks conservatism in the treatment of this disease is a great mistake, and maintains that in nine cases out of ten the appendix can be successfully removed.

ON SOME CONDITIONS OF HEALING BY FIRST INTENTION, WITH SPECIAL REFERENCE TO DISINFECTION OF HANDS.

Dr. THEODOR KOCHER of Berne, Switzerland, contributed this paper. The conclusion of the author as to the possibility of securing primary union of operation wounds, with or without gloves, is the following:

"1. Either, do use sterilized rubber gloves for every operation when you wish to be quite independent as to the form of your nails, the touching of everything you like, and the liberty to wash or not wash your hands, and when you can spend plenty of money. Put your covered hand, from time to time, in a strong antiseptic solution (best, 2 per cent. sublimate) during a long operation, if you wish to be very careful.

"2. Or, never wear gloves for operations; do what you like between your operations, but poison yourself every time before you operate by brushing and bathing your hands for ten minutes in a strong, hot sublimate solution, after thorough washing and cleansing with hot water, soap and alcohol, for fifteen minutes. Repeat a short antiseptic ablution frequently during a long duration, when you wish to be very careful.

"3. Or, go the golden middle way; avoid touching with uncovered hands any infective or septic material between the operations, or wash it carefully away at once; cut your nails as short as possible; brush your hands thoroughly with hot water, soap and alcohol (85 to 95 per cent.), avoiding any poisonous disinfectant before you operate, and, if you wish to be very careful, put cotton, silk, or best rubber gloves on when you touch the threads for ligatures and sutures and when you have much to tear the tissues and to rub your fingers in the depth of a wound.

"4. But don't forget that the healing of the wounds *per primam intentionem* does not depend exclusively on your hands, but also upon the same preparation of the patient's skin, upon sterilization of everything else coming in contact with the wound and its surroundings, upon complete arrest of bleeding, exact closing of the wound by sutures, or avoiding accumulation of fluids in cavities, necessarily left, by drainage, and last, but not least, upon the use of antiseptic threads for ligatures and sutures, as long as impermeable threads are not yet invented."

NEPHRECTOMY VS. NEPHROTOMY.

Dr. JOSEPH RANSOHOFF, Cincinnati, read a paper on this subject. He said that renal surgery is essentially the product of the past twenty years. The occasional operations on the kidney performed before that time paved the way for a clearer appreciation of the conditions demanding operative relief. Betterments in the mode of examination, and the consequently greater accuracy in diagnosis, the recognition of the early gross changes wrought by disease, as seen by operation rather than by autopsy, and the comparative safety of incisions through healthy kidney tissue have brought to the fore the element of safe conservatism in the domain of renal surgery. Several interesting and instructive cases of pyonephrosis were reported. Nephrotomy, per se, is doubtless an operation nearly devoid of danger. When performed on a healthy kidney, as for stone, the mortality is less than 5 per cent. When performed for suppurative diseases the mortality rises. He has tabulated records of 78 nephrotomies for pyonephrosis exclusive of tuberculosis, published within the last three years from various clinics. Of these 78 nephrotomies, 17 were followed by death, a mortality of 21.8 per cent. In the hands of some surgeons the mortality has been very large. Four out of 5 cases were fatal in the Vienna clinic. Out of six cases of nephrotomies at the Roosevelt Hospital, 3 died. On the other hand, Israel lost only 1 out of 8, and Thornton 1 out of 12. From the same sources he has tabulated 37 primary nephrectomies with 9 deaths, giving a mortality of 24.3 per cent., and 17 secondary nephrectomies, with 7 recoveries and 10 deaths, a mortality of 58 8 per cent.

The advantages of nephrotomy for pyonephrosis are obvious: 1. It is an operation readily tolerated even in patients greatly reduced by fever. 2. It permits the surgeon to determine the condition of the opposite kidney. 3. By it the saving of even a small amount of functionating kidney tissue may throw the balance in favor of recovery. In dealing surgically with a pyonephritic kidney, statistics can guide the operator only in a general way in the choice between nephrectomy and nephrotomy.

Nephrotomy is indicated in pyonephrosis: 1. When the condition of the opposite kidney can not be ascertained. 2. When the reduced condition of the patient will not permit the major operation if this is indicated. The nephrotomy is then but the preliminary step to be followed by nephrectomy as speedily as possible. 3. When the operation reveals the pressure of considerable kidney tissue, and an approach to the normal on the part of the pelvis and proximal portion of the ureter. Here a later ureteroplasty may avert the need of nephrectomy. 4. When there is evidence of suspicion of disease in the other kidney.

Primary nephrectomy is indicated: 1. When there is a sound second kidney. 2. When inspection of the exposed kidney shows many or large pouches that can not be successfully drained. 3. When there is little kidney tissue left. 4. When an examination of the pelvis and proximal portion of the ureter makes it reasonably certain that a return to the normal can not take place. 5. In para- and perinephritic suppurations where the kidney acts as a valve, impeding successful drainage. (Israel.)

HERNIA FOLLOWING OPERATIONS EOR APPENDICITIS.

Dr. FRANCIS B. HARRINGTON, Boston, read this paper. He made a personal examination of the condition of the abdominal wall in 236 cases of appendicitis operated on at the Massachusetts General Hospital by various surgeons. They represented all varieties of the disease. The period which had elapsed since operation varied from nine months to nine years. No case was included which was operated on since July, 1897. Total number examined, 236; males, 190; females, 46; 27 true hernias in all—11½ per cent.; 21 true hernias in males—11 per cent.; 6 true hernias in females—13⅓ per cent. Eighty-five wounds closed at the time of operation, 3 hernias, 3½ per cent.; 85 wounds partly closed at the time operation, 11 hernias, 12.5 per cent.; 63 wounds left entirely open at the time of operation, 13 hernias, 20 per cent. If with these cases of true hernia are included 10 cases of punctiform hernia, and 53 cases of more or less bulging in the scar which did not constitute true hernia, the following percentage of weak scars is noted: in 85 closed wounds, 6 per cent.; in 88 partly closed wounds, 51 per cent., and in 63 open wounds, 62 per cent.

Intermuscular spaces: An opening between muscles or tendons, or both could be detected in the scars. In 85 closed at the time of operation, 26 per cent.; in 88 partly closed at the time of operation, 83 per cent., and in 63 open wounds, 87 per cent.

General abdominal bulging: In 85 closed incisions, 7 per cent.; in 88 partly closed incisions, 45 per cent., and in 63 open incisions, 46 per cent.

During the period in which these cases were operated on, that is, from 1888 to 1897, some of the muscles or tendons were cut at right angles to their fibers in the acute cases, and often in the cases which were tightly closed at the time of operation. The writer advocates the use of an enlarged McBurney incision in all acute cases, which will obviate the cutting transversely of any muscle or aponeurosis.

Résumé.—Hernia and bulging occur frequently after operations for appendicitis, and result from the separation of muscles and other tissues in the scar. They are more common when drainage has been used. The muscular and tendinous tissues should not be transversely cut in any appendix operation, unless it is unavoidable. As little drainage material as safety will permit should be used, and when necessary at all the wound should be closed as far as possible with sutures and the drainage removed early. If the wound can be closed immediately the tissues should be restored to their normal position by suturing each layer. Stout belts and trusses are of little value in preventing hernia and may even do harm. The abdominal muscles, from the earliest period possible after operation, should be developed by appropriate muscular exercises. If hernia or marked bulging appears, operation for cure is safe and satisfactory.

SOME UNUSUAL CASES OF APPENDICITIS WITH COMPLICATIONS.

Dr. ALBERT VANDER VEER, Albany, N. Y., followed with a paper on this subject. Operative surgery, in its relation to the appendix, will ever present rare and unusual cases. This was brought out strongly last year when the president of the association and others gave the histories of some very unusual lesions of the abdomen. Surgeons may examine their cases with ever so much skill, employing diagnostic intelligence to the best advantage, yet when they enter the peritoneal cavity they must be prepared for surprises. From the knowledge acquired from these isolated and rather rare cases, it is more possible to increase the percentage of recoveries. A hernial sac with the appendix therein is not particularly rare, but to find it with a foreign substance like a pin, immediately in the appendix, and not having caused trouble, is something unusual. To operate for the relief of femoral hernia and find not only the appendix, but a prolapsed bladder in the female, is certainly decidedly rare. Dr. Vander Veer then detailed eight somewhat unusual and complicated cases.

CASES OF FRACTURE OF THE SKULL, FOLLOWED BY RECOVERY.

Dr. DUDLEY P. ALLEN, Cleveland, Ohio, presented a paper with this title. He reported ten cases of fracture of the skull, all but one of them involving the base. The first five reported were fractures at the base of the skull without any injury to the vault. Of these, three were rendered totally unconscious at the time of the accident, one was in a semiconscious condition, and the third, so far as could be ascertained, retained consciousness. Bleeding from both ears occurred in two of these cases, whereas in three of the cases there was bleeding at only one ear. Deafness in one case occurred in both ears at the time of injury. Whether in the other cases deafness occurred at the time of injury could not be definitely determined. In two of these cases, however, deafness was complete and permanent in one ear, and in one case the hearing was much impaired in one ear. Loss of smell was complete in one case and greatly impaired in one. Paralysis of one side of face occurred in two cases, in one of which it remained permanent. These five cases of fracture confined to the base of the skull are alive and well at the present time, except for the disabilities just described.

There were two cases of children who fell from heights, upon the vault of the skull, causing most extensive fracture and great deformity of the cranium. In one of these cases there was a great deal of hemorrhage from the ears. In both the scalp was lifted, the cranium was laid bare, and by means of a hook the fragments making up the depressed vault were raised to their normal positions. Both cases have recovered. One, however, has impaired hearing in one ear.

Two cases reported received injuries in the frontal region extending into the base. In one of these there was extensive injury to the frontal bone, and a large amount of bone and considerable lacerated brain tissue were removed. There was a fracture in this case, extending across above the frontal eminence to the temporal fossa, on the opposite side of the skull to that which received the greatest injury, and there was a fissure from the base of the skull extending from the frontal bone backward to the sella turcica. This case had a large cerebral hernia. In the other case the injury to the frontal region and the involvement of bone was small.

The point of interest in the latter case was the temperature, which rose gradually at two different periods to 105 degrees, the case presenting many of the symptoms of typhoid fever with a relapse of the same. The other characteristic symptoms of typhoid fever were, however, entirely lacking, and the presence of optic neuritis, indicating probably a basal meningitis, placed the diagnosis of the cause of fever in considerable doubt. Both cases made a complete recovery.

The tenth case was one of severe injury in the region of the right parietal bone, followed in some weeks by impairment of mental activity, and also of motion of the right arm and leg. This was found to be due to a large subdural collection of blood on the left side, notwithstanding there was no evidence of injury on this side. The accumulated blood amounted to several ounces. It was removed and the patient is now well.

These cases which have recovered are reported because of the interest attached to the symptoms attending fracture, namely, hemorrhage from the ears, facial paralysis, loss of hearing and loss of smell.

The following officers were elected for the ensuing year: president, Robert F. Weir, New York City; first vice president, Charles B. Nancrede, Ann Arbor, Mich.; second vice-president, Edmond Souchon, New Orleans, La.; secretary, Herbert L. Burrell, Boston; treasurer, George R. Fowler, Brooklyn, N. Y.; recorder, DeForest Willard, Philadelphia; member of the council, W. W. Keen, Philadelphia.

The next place of meeting will be Washington, D. C., May 1-3, 1900, in conjunction with the Congress of Physicians and Surgeons.

N. Y. State Medical Association, Fifth District Branch.

Fifteenth Annual Meeting, held in New York City, May 25.

DISCUSSION ON MALIGNANT DISEASE.

Dr. JOSEPH D. BRYANT, New York City, the president, opened this discussion. In suggesting this topic, he had done so for two reasons: 1. Because now that the solution of the problem of tuberculosis has been marked, there is no subject attracting so much attention in the scientific world, on account of its increasing frequency and marked fatality. 2. One of the principal causes of its great fatality is the hesitancy to resort to prompt surgical interference. One of the most melancholy features of the disease is that hope and good cheer desert the sufferer from the beginning. At the present time much is being done toward a solution of the character of the conditions which result in the development of malignant diseases.

Having referred to Snow's statement that cancer is essentially a disease of civilization, being practically unknown among savage nations, he stated that in 1894 he had called attention to the marked increase of the disease in the United States and on the continent of Europe. He then gave the latest statistics of a large number of American and European cities. In Chicago, in 1879, 2.05 of every thousand deaths were due to this; in 1889, 2.24, and in 1898, 3.92. In all parts of the civilized world there has been a decided increase, although, according to Newsholme, this is an apparent rather than a real increase, due to more correct diagnosis and more frequent autopsies. Personally, he is convinced that the increase is real, and that the most energetic action should be taken to arrest its progress. An early resort to operation will not entirely do away with this great mortality, but it will undoubtedly rob the affection of many of its terrors, and it is our only resource until science has revealed some more efficient method of treatment.

He said that cancers occur more frequently between the ages of 45 and 55 than in all other periods combined, and is rare in the first forty-five years of life, the period of greatest activity and exposure—which argues against the parasitic origin of the disease. He also spoke of the importance of not only early, but thorough, operative procedure—all the lymphatic connections of the cancerous growth, whether implicated or not, should be completely removed. There has been a vast improvement in the results of operation since 1870, when Sir William Paget said that he did not know of a single instance of a recovery with the patient free from recurrence after ten years. Very recently Watson Cheyne has called attention to the excellent results now obtained and to the progress made in surgical technic, by which this thorough removal of the disease, and consequently more frequent success in operating, has been accomplished. The truth is, that in many instances no one can state whether glandular involvement exists or not, and it is a fact that enlargement of lymphatic glands does not result until some time after they really become affected. In operating on mammary cancer it is essential that the axilla be completely emptied. It should also be remembered that Gross determined that when the axillary glands are involved the suprascapular glands are also affected in over 6 per cent. of the cases. Promptness and energy should be the watchwords of the medical attendant, and the moment that the presence of a tumor in any part of the body is discovered, steps should be taken to determine its character with a view to its immediate removal should the existence of malignant disease be established. If any benefit is to be derived from an operation, the earlier and more thorough the latter, the greater its benefit.

NATURE OF MALIGNANCY IN NEOPLASMS.

Dr. EDWARD K. DUNHAM, New York City, read this paper, pointing out that as to what constitutes a neoplasm, there is still some difference of opinion. In order to understand the matter, it is necessary to study the normal development of a new individual. He referred to the various forms of normal cellular activity, and considered the cellular activities met with in morbid processes. Inflammation, he said, is one of the results of damage to tissues, and the effects of such damage may be classified under four heads: total destruction, necrosis, degeneration and irritation. When irritation occurs, there is to some extent a revival of the processes characteristic of normal tissue growth; but in the true neoplasms the tissues do not develop to meet any definite purpose having a direct relation to the formation of special tissues. The nutritive and formative activities of the cells are retained, but not the reproductive; and clinically the growths are recognized as benign in character. In the most malignant tumors (sarcomata), however, while there is reproductive and nutritive activity, the normal activity of the cells is nearly, if not totally, lost. Such tumors are characterized by rapidity of growth and metabolic activity, and show a tendency to implicate surrounding tissues. They are attended with infiltration and a liability to metastasis. Intermediate between sarcoma and benign tumors there is a variety of others, and it is, indeed, quite impossible to draw a positive line between the benign and the malignant. The degree of malignancy which they display may be said to be proportionate to the loss of formative activity in their cells. This point of view is, however, by no means universally accepted. Speaking of San Felice's experiments to show that the nucleated bodies supposed to be characteristic of cancer cells are blastomycetes, he said that, while not prepared to absolutely deny that the presence of parasites might draw the cells from their normal allegiance, he does not hesitate to express his doubt as to the correctness of this hypothesis.

MALIGNANCY IN FEMALE GENITO-URINARY SYSTEM.

Dr. L. GRANT BALDWIN of Brooklyn read this paper. Out of 3787 gynecologic cases of which he has records, 60 were cases of some form of malignant growth. In two of these the disease affected the bladder and urethra, and in three the ovaries. He gave an outline of these 5 cases, and said that in the remaining 55 the uterus was the organ attacked. In 17 of these hysterectomy was performed, and 4 of the patients so operated on remain well at the present day. As all these women but one had been pregnant one or more times, it seems reasonable to infer that procreation is a positive factor in the causation of uterine cancer, and there can be no question that laceration of the cervix is a specially prominent etiologic factor. In his experience the prognosis in this disease is very bad. For this result family physicians and the patients themselves are largely at fault, for it is a lamentable fact that in nearly all his cases the disease had already existed from six months to two years before the patients were brought to him. There is certainly, therefore, a widespread misapprehension on the part not only of the public but of the profession, since our only hope of cure lies in an early and complete removal by operative means.

How can this long delay in making a diagnosis be avoided? The occurrence of hemorrhage, whether at the time of the menopause or any other, is the one thing of all others which should call for an immediate and thorough vaginal examination. In some cases, also, a thin watery discharge from the vagina precedes hemorrhage, and this should at once excite suspicion. The absence of pain and of loss of flesh are apt to be misleading, for both these symptoms, as a rule, only appear comparatively late in the course of the disease. The absence of odor is also not to be relied on, and by the time the characteristic cancerous cachexia has developed, it is usually too late to save the patient.

As to the treatment, vaginal hysterectomy is now generally regarded as the most approved procedure. In the technic of the operation, clamps or forceps should be employed as far as possible, and if sutures and ligatures can be done away with entirely, it will be a great step in advance.

MALIGNANT DISEASE OF NOSE AND THROAT.

Dr. JONATHAN WRIGHT of Brooklyn, in this paper, said that there appears to be some exceptions to the usual fatality of the affection, since he has observed instances of recovery without operation in cases in which the diagnosis of malignancy had been made by competent authorities. It is possible that in these cases there were errors in the microscopic examination. It is a fact, however, that such growths in the nose present a clinic picture entirely different from that met with in similar neoplasms treated in the larynx. Adenoma in the nose is rare, and when there usually becomes converted into adenocarcinoma or adenosarcoma. Such tumors are usually of slow growth and would seem to present a favorable chance for operation; but he has found that they are very apt to occur in the aged and feeble and that the operation is often a most difficult one. In many cases it is almost impossible to secure a fragment of tissue for microscopic examination. Clinically there is very little difference between adenosarcoma and adenocarcinoma. In some cases it is very difficult to distinguish between syphilitic granulomata and small round-celled sarcoma, the most malignant of tumors. The surgeon should, however, always bear in mind the possibility of the existence of syphilis, and in any doubtful case place the patient on iodid of potassium. He pointed out that the number of cases of malignant disease of the pancreas is much smaller where the diagnosis is for any length of time attended with doubt. Sarcoma of the tonsil is by no means rare, and he has himself met with thirty-four cases of the small round-celled variety. When affecting the tonsil it is sometimes very difficult to make the differential diagnosis between sarcoma and simple hypertrophy or syphilitic hypertrophy.

EARLY RECOGNITION AND MANAGEMENT OF MALIGNANT DISEASE IN DIGESTIVE SYSTEM.

Dr. MAX EINHORN of New York City read a paper on this subject. Judging from analogy, he said, malignant tumors, if discovered early enough, should be just as successfully operated on in the digestive tract as elsewhere, and it should, therefore, be the aim of the clinician to perfect his diagnostic ability. The stomach-tube and, in conjunction with it, the chemic analysis of the gastric contents, has made a decided advance, while transillumination of the stomach may also, in favorable instances, be of some service; but still it must be conceded that our methods are as yet comparatively crude, and, as a rule, permit us to recognize the malignant affection only at a stage where it had already progressed to a considerable extent. Those places along the digestive canal subjected to the most marked mechanic irritation are also most often the seats of malignant disease.

His rules for treatment are: 1. Whenever the tumor is accessible for operation, and there is the slightest hope of curing the patient, the complete extirpation of the growth should be performed. 2. If the tumor is not accessible for operation or the entire removal practically impossible, palliative operations which serve to alleviate suffering and prolong life should be undertaken in cases requiring them. 3. Cases of malignant disease operated on, as well as those without operation, require for their management a skilful physician, who is able to lessen suffering and nearly always to lengthen life, even under the most trying conditions.

Cancer of the esophagus and cardia, he said, does not for the present permit of any radical operation. Whenever the patient becomes unable to take sufficient nourishment, gastrotomy should be performed whenever feasible. Practically the outlook for a cure after a radical operation in the intestinal tract becomes less encouraging the farther away from the anus the tumor is situated. Malignant disease of the pylorus can often be recognized quite early through the ischochymia which it usually produces. Here a laparotomy should be performed quite early, and the pylorus resected, with the establishment of a new communication between the stomach and duodenum if possible. If not, a gastroenterostomy alone should be made. Cancer of the lesser curvature of the stomach, or the posterior wall, is usually recognized quite late, rendering radical procedure impossible. If cardia and pylorus are not involved there will be no need of any operation, and the usual palliative remedies should be given.

Cancer of the rectum can be recognized quite early, and resection of the neoplasm is here accompanied by brilliant results; but if the tumor is located farther up in the large bowel, or in the small intestine, the results of an operation are not as promising. Excision of the tumor and resection of the intestines in the neighborhood of the neoplasm, with an end-to-end anastomosis, should be practiced whenever feasible. In case, however, total resection is impossible, an enteroenterostomy or enterocolostomy or, if the cancer is situated in the rectum, a colostomy (artificial anus) would be of benefit. These palliative operations are intended to allay the symptoms of obstruction and to carry off the fecal matter over a new route, not passing through the cancerous area. In some instances of inoperable cancer of the rectum, curettage, followed by the application of the thermocautery, might be of benefit for a short period.

MALIGNANT DISEASE IN MALE GENITO-URINARY SYSTEM.

Dr. J. W. S. GOULEY of New York City read this paper and said that there is one location in which he is positive malignant growths have decreased very decidedly of late years,

i. e., the scrotum. Formerly what was known as "chimney-sweep's" cancer had been comparatively common, but now that the practice of climbing chimneys had been given up and men are so much more cleanly in their habits, this is almost unknown. Sarcoma of the scrotum is a little more frequent, but still rare. Chondrosarcoma is a rare form of disease met with in the testicle, and, curiously enough, found also in the parotid gland. The kind of disease known as "chimney-sweep's" cancer may also attack the prepuce in filthy people; and venereal warts, which are due simply to filth, are liable to terminate in malignant disease. They should, therefore, always be cauterized with chromic acid or some other escharotic. Any growth on the penis should be promptly removed by the surgeon, for even if benign at first, it is liable to be converted into a malignant one. The round-celled sarcoma he believes to be of microbic origin, while spindle celled sarcoma is certainly a different disease, and quite controllable. In conclusion, he spoke briefly of cancer of the prostate, the bladder and the kidneys.

TREATMENT OF INOPERABLE MALIGNANT TUMORS.

Dr. WILLIAM B. COLEY, New York City, in his paper expressed his conviction that malignant disease is of parasitic origin, and that the links in the chain of evidence going to establish the correctness of this view are being slowly forged, and but few now lacking. In support of it he referred to San Felice's recent experiments with blastomycetes on dogs. Having passed in review various forms of treatment, such as the injection of pure ferments and of thyroid extract and the parenchymatous injection of alcohol, he spoke of the treatment by means of mixed toxins of erysipelas and bacillus prodigiosus, to which he has been giving special attention for more than seven years. The case that led him to take up this line of investigation was one of small, round-celled sarcoma of the neck, which had been operated on by Dr. W. T. Bull five times. It was found impossible to remove all of the tumor, and the last operation was performed in 1884. Shortly after the operation the patient had two successive attacks of erysipelas. During the course of this disease the tumor tissue entirely disappeared, and the patient was alive and well in 1891, seven years after.

The cases treated with mixed toxins now number 150; 87 are cases of round-celled sarcoma, of which 39 are more or less relieved; 1 patient was quite free from disease five years after undergoing the treatment; 22 are cases of spindle-celled sarcoma, and of these, 8 have been free from the disease for from three to seven years, and 11 for from one to three years. His conclusions, in part, are as follows: Mixed toxins exert a controlling action on malignant growths. They are less efficient in their action on carcinoma than on sarcoma. In a large proportion of cases of inoperable sarcoma the patients survived for more than three years after the treatment, the best results being in the spindle-celled variety. The action of the toxins in no wise resembles that of a local escharotic.

New York County Medical Association.

Stated Meeting, May 15, 1899.

RESECTION OF INTESTINE AND SIGMOID FLEXURE FOR CARCINOMA.

Dr. FREDERICK HOLME WIGGIN reported a case of a woman, 38 years of age, who had begun, two years before coming under his care, to suffer from painful defecation and rectal hemorrhages. Physical examination had revealed an organic stricture, and accordingly he had operated by an incision through the perineum down to the anal border, and around the anus and down to the coccyx. He had found the sigmoid flexure, mesorectum and mesosigmoid all involved in the carcinoma, and had therefore brought up the lower end of the descending colon through the left rectus muscle, and made an artificial anus. Some suppuration had taken place in both the abdominal perineal wounds, but the granulating process had progressed fairly rapidly. So far, there had been no recurrence, and no special tendency to prolapse.

Dr. E. D. FERGUSON of Troy spoke of the comparative ease with which one could gain access to the higher portions of the pelvis in women by splitting the rectovaginal septum and dissecting off and throwing forward the posterior vaginal wall.

IMPACTION OF FOREIGN BODY IN LARYNX; RECOVERY AFTER HIGH TRACHEOTOMY.

Dr. FRANCIS J. QUINLAN reported this case. The patient, a boy, had been admitted to St. Vincent's Hospital on April 26, suffering intensely from dyspnea. Although the foreign body had been located on the true cords, efforts to remove it by the intralaryngeal method had proved of no avail, and he had then done a tracheotomy, and, on exposure of the object, had discovered that it was a double-flanged screw, and that this accounted for the great difficulty in removing it. After some difficulty it had been extracted, and the wound closed. The latter procedure had been objected to by some of the surgeons present, but he had done it on the ground that there would be less danger of pneumonia. Recovery had been uninterrupted, and only a very slight scar remained.

SUDDEN DEATH FROM FOREIGN BODIES IN LARYNX.

Dr. WILLIAM T. JENKINS presented a series of specimens and reports of cases of this kind. In the first case, a boy, while playing in the park, had suddenly become cyanotic and died before medical aid could be summoned. The autopsy had shown the opening between the vocal cords occluded by a bone collar button. Several cases were cited in which almost instantaneous death had followed the lodgment of a bolus of meat over the larynx. In another case, some of the teeth had been knocked down the throat, and had been found, after death, lodged at the bifurcation of one of the larger bronchi. In another case, sudden death had resulted from the rupture of a broken down bronchial node into the trachea.

Dr. R. H. M. DAWBARN spoke of the danger while operating about the face and mouth, of blood running into the air-passages, and causing death by asphyxiation. Immediately on the appearance of the first symptoms of this complication, the surgeon should not waste time in doing a tracheotomy, but should, with one plunge, make an opening into the cricothyroid space.

Dr. J. W. S. GOULEY recalled the well-known case in which the late Dr. James R. Wood had saved a child's life by inserting his finger into the little one's throat and fishing out a thimble which had been swallowed.

COLLOID CANCER IN ABDOMEN.

Dr. E. D. FERGUSON of Troy presented a paper in which he reported a case of this, and from it made certain deductions regarding the origin and dissemination of cancer. In the case quoted there had been carcinomatous deposits studding the entire peritoneal surface. Some of the colloid material had been free, while the remainder was confined in vesicles. In another case, seen last November, there had been also a quantity of colloid material, and a firm cancerous mass in the right iliac fossa. As the epithelioid cells in the nests, which were the seat of this colloid change, had not been changed, it followed that on their rupture and the escape of the glue-like material, some cells retaining their original characteristics must go with it. From the fact that only twenty-eight cases of cancer of the penis had been reported as occurring in men whose wives were affected with cancer of the vulva or cervix, it did not seem probable that cancer was readily inoculable. The supposed rapid increase in the number of cases of cancer, both in England and in this State, may possibly be explained by the greater number of cases of cancer now recognized and treated. In the present state of our knowledge one can not deny the possibility that extraneous organisms, by irritation, may result in cancer. The idea of autoinfection from the cancer elements themselves is, at least, an encouraging working hypothesis, and point out the great need for early and thorough removal of the disease.

Dr. R. H. M. DAWBARN said that to Dr. W. S. Halsted very great credit is due for his radical operation for carcinoma of the breast. It is important that the axillary contents be removed first, and the cancerous breast last, otherwise the necessary manipulations of the parts favor the dissemination of the cancer juice. Many years ago, Dr. Bryant, in the face of strong opposition, demonstrated that it was possible to starve out a cancer of the nasopharynx by ligating both carotids. The first case was completely successful. He did this operation himself in sixteen cases, and was surprised at its comparative simplicity, and the freedom from such complications as gangrene of the tongue. His first operation of this kind was performed three years ago, and the patient is still alive.

Dr. GOULEY expressed his skepticism regarding the microbic origin of epitheliomatous cancer, but thought it much more probable that round-celled sarcoma, which ran a rapidly fatal course, would prove to be of this nature. Among the older surgeons, and notably Dr. James R. Wood and Dr. Carnochan, this method of ligating the arteries about the face in the effort to cure cancer, had been tried, but with very little success. Some years ago, when he expressed the opinion that all tumors should be removed as soon as detected, the idea found but little favor; now, the general consensus of opinion is in favor of such practice.

Dr. PARKER SYMS expressed regret that so much credit had

been given to Dr. Halsted, while Dr. Willy Meyer of New York, who had devised a very similar and somewhat better operation, had been ignored. In both operations the aim was to remove the highest accessible lymphatic nodes, together with fat, fascia and muscle, removing the breast last along with the pectoral muscle. The method of ligation recommended by Dr. Dawbarn had been thoroughly tried, and, for the most part, discarded.

Dr. JOHN J. MCGRATH said that colloid degeneration occurs chiefly in connection with carcinoma of the mucous membranes. The process appears to consist in a change in the cells of the tumor chiefly, although, at times, the stroma is involved. He agreed with Dr. Gouley in believing that sarcoma will probably be found to be microbic, yet such a view seems to logically lead to an absurdity, for sarcoma is composed of the normal elements of the body, and as the same is true of lipomata, one should expect fatty tumors also to be of microbic origin. It is not necessary to suppose a microbic infection to explain metastases, for they may be the result of embolism.

Dr. DAVID P. AUSTIN described a case of colloid cancer of the abdomen observed by him in a woman of 80 years, in which, at autopsy, an enormous quantity of colloid material had been removed.

Dr. FERGUSON, closing the discussion, stated that as he believed in transplantation of cancer, he must necessarily accept the theory of infection. At present, however, he would not accept the view that cancer originated through the agency of an extrinsic micro-organism.

Kentucky State Medical Society.

Forty-fourth Annual Meeting.

(Concluded from page 1256).

USE OF CHLOROFORM IN LABOR.

Dr. WALKER B. GOSSETT of Louisville, in his paper on this subject, referring to the history of chloroform in labor, paid a tribute to Dr. Henry Miller of Louisville, who in 1858 was the first to use chloroform in labor west of the Alleghanies. It should be used with the patient in the horizontal position, intermittently and not profoundly. The intermittent contraction of the uterus prevents asphyxia. It does not predispose to postpartum hemorrhage, but does lengthen labor if given early. No shock is produced; suffering is lessened; useful in obstetric operations; relaxes the uterus in version; promotes dilatation of cervix; in eclampsia, convulsions and mania; relaxes the abdominal wall in removal of retained secundines; craniotomy; symphysiotomy; bipolar version; precipitate labor; diagnosis of phantom tumors, and between intrauterine and extrauterine pregnancy; primary suture of the perineum. Chloroform after labor is to be avoided if possible. It should be administered only at the correct time and that the perineal stage, the last half of the second stage. The inhaler should be placed firmly over the nose and mouth and a dram or two placed on it, not a few drops, and with the next contraction there will be a full deep inspiration and the patient will be brought in the obstetric degree. The inhaler is removed between pains. When given in the first stage the uterus is tired by long work.

Dr. C. C. LEWIS of Stamping Ground, stated that the mission of the physician on this earth was certainly to relieve suffering, but he confesses he had used chloroform in labor sometimes with regret afterward. It is not only digital examination which denotes the progress of labor, but the woman's condition, and the amount of disturbance created, which is also valuable. It should not be used indiscriminately, and he does not consent to the statement that it should be used in every case, as there are often many disadvantages.

Dr. B. M. TAYLOR of Greensburg, was even more enthusiastic than the essayist on the use of chloroform in labor. He uses it as soon as the head is through the cervix, and when the head is distending the perineum the patient is almost fully under its influence. He does not think it interferes with contractions of the uterus.

Dr. G. G. THORNTON of Gravel Switch stated that all cases do not need chloroform, as many get through with but little pain; the higher in the social scale woman gets, the more pain she endures at this time. The danger in its use is more than counterbalanced by the advantages derived. He was not of the opinion that it would retard labor if properly used.

AMETROPIA AND HETEROPIA WITH REMARKS ON EYE-STRAIN.

Dr. A. G. BLINCOE of Bardstown, in this paper, said he had for years been skeptic in regard to muscular eye troubles, but after experience in refractive work, found it very prevalent. Cases of serious constitutional disturbance can be improved by correction of eye-strains. He reported one case of epilepsy, in which a graduated tenotomy of the external recti had not been productive of good, but he had been completely cured by a complete tenotomy of the external recti and shortening of the internal recti, which was necessary before the restoration of the muscular balance.

Dr. J. M. RAY of Louisville stated that the eye specialist has been accused of being narrow minded, but it was his opinion that not so many cases of great difficulty from eye-strain were seen by eye specialists, benefited or cured by correction, as were seen by the general practitioner who had drifted into refraction work. He did not believe that any case of chorea or epilepsy could be cured by the adaptation of lenses. The emmetropic eye is a rare condition. The majority of people are hypertropic, and he did not see why correction of a quarter diopter could relieve epilepsy.

GUNSHOT WOUND OF FEMORAL ARTERY.

Dr. H. K. ADAMSON of Maysville read this paper, reporting a case with ligation, in a colored man, of 40 years, wounded with a 38-caliber ball entering the right thigh by Poupart's ligament, coming out below the knee-joint, and with immediate swelling; forty-three days after injury, he was seen by the essayist, and operation performed. Aneurysm instead of pus was found, and severe hemorrhage after removal of clot; ligation of femoral was done. He reacted well from the operation, but secondary amputation was done because of gangrene, on the sixty-first day after injury, and knee joint saved.

ETIOLOGY AND TREATMENT OF LOBAR PNEUMONIA.

Dr. F. C. WILSON of Louisville read this paper. He stated that it is almost as great a scourge of the human race as tuberculosis. Cause influenced by latitude, race, age, sex, habits of life, diseases of the heart. Infectious nature of the disease is demonstrated beyond a doubt. It can be arrested in the first few days, if seen in the first stage, ergot and salicylates being the chief drugs used. He has used antipneumococcus serum with good results, and advises stimulants when indicated, rest and quiet, strychnia, digitalis, strophanthus and carbonate of ammonia, and opiates, the latter only for severe pain. Oxygen gas is important; also cold, by reducing congestion as advocated by Mays, was favorably mentioned.

TREATMENT OF LOBAR PNEUMONIA.

Dr. JOHN G. CECIL of Louisville presented this paper. It is in the nature of the disease to run a definite course, uninfluenced by treatment, which should be with reference to the patient, and not to the disease. In the sthenic type he advises a purgative dose of calomel, opium in some form for pain, according to the extent of pleurisy; it quiets pain, allays a harassing cough, gives rest and sleep, answers the purpose of cough medicine, an eighth of a grain of morphia often being all that is necessary. The ice-bag is an improvement on the time-honored hot poultice; temperature of 104 is not a bad indication. Veratrum viride and aconite have no place in therapeutics, as they depress the heart. Loss of the second sound indicates a need of stimulants; give for effect, regardless of dose; whisky and strychnia, one-sixtieth to one-tenth for effect; whisky in plain or aerated water without sugar. If nitroglycerin is used, it being a definite stimulant and rapid in elimination, it should be often repeated. Digitalis is inferior to strychnia. Give oxygen for cyanosis, and do not delay its use too long; none are too hopeless for its use. We are more likely to overfeed than underfeed—meat broths, milk, aerated water. Solid foods, milk punch and eggs are not indicated. If diagnosis is made, frequent examinations are contraindicated. The sitting posture is dangerous.

Dr. GEORGE BEELER of Clinton advised blood letting. He used tartar emetic and veratrum viride in beginning of his practice, bled hundreds of patients, and his experience with the lancet and tartar emetic was favorable, but he has been gradually weaned from this method, and believes when this treatment was used he was more successful than now. He would not use coal tar products. He believes in the infective theory, and has had five cases in one family.

Dr. T. J. YEAGER of Campbellsburgh endorsed the previous speaker, and believes the best results were obtained by use of the lancet in old times. He has followed the trend of the new theory, takes hold of new systems, and does not believe whisky is the best stimulant, nor does he endorse the use of opium.

Dr. SNIDER of Mt. Eden vigorously protested against taking up the treatment our forefathers used, as bleeding, tartar emetic, etc., in pneumonia.

Dr. T. A. STUCKY of Louisville said that the abortive treatment by ergot and salicylate of soda had been instilled in him when a student. He has either used the drugs wrongly, or

they have failed to do the work expected. Action on the vessel wall can not stop hyperemia, which is active and passive as well. Eliminations by various channels is indicated. Interference with oxygenation interferes with oxidation. We should eliminate carbonate of ammonia from drugs. Nausea and gagging produced, interferes with the stomach, the chief organ to be preserved. Relieve pain with the cold pack for the temperature, strychnia from the start, and not waiting until needed from second sound. Oxygen is of greatest value.

Dr. W. W. RICHMOND of Clinton endorsed veratrum viride when given during the first twenty four or thirty-six hours, but of no use afterward. With active heart, strong pulse, pleuritic stitch, opium is good, veratrum viride does little harm, and is least harmful of all heart sedatives, more so than aconite. Strychnin, if given early, is the best stimulant; can not rely on digitalis. Veratrum viride best relaxes, equalizes the circulation and relieves engorgement.

Dr. WILSON, in closing, stated that ergot had a selective action over the arterial vessels when in a state of vasomotor paralysis.

THIRD DAY.

The nominating committee reported as follows: president, Wm. Bailey of Louisville; first vice-president, Jas. H. Letcher of Henderson; second vice-president, R. C. Falconer of Lexington; permanent secretary, Steele Bailey of Stanford; treasurer, C. W. Aitken of Flemmingsburg; librarian, B. W. Smock of Louisville. On motion the election was unanimous.

HERNIA AND ITS OPERATIVE TREATMENT.

Dr. J. L. JOHNSON of Louisville stated in this paper that operation for radical cure should be advised by the surgeon in every case occurring between 6 and 50 years of age, when the health is otherwise good. Palliative treatment is non-curative, and should only be resorted to when radical means can not be used. The truss is often applied over irreducible hernia and causes varicocele. The injection plan was condemned, as it may cause sepsis; inflammatory reaction leaves hernial canal more patulous than ever. The principal dangers of operation are sepsis and hemorrhage from loosely ligated section of omentum; cicatricial tissue to hold hernia is abandoned; primary union regarded as of first importance; unsurgical to plug canal with omentum. Kangaroo tendon is recommended as best material, and Bassini's operation as the best, it having stood the test of time.

Dr. W. C. DUGAN of Louisville believes a truss in children, if properly applied, will get union and cure in all cases. Pressure of the truss on the cord will not cause varicocele; if so applied it is a misuse of the truss. The pad should not be conic, as absorption occurs, and a larger ring results; should be broad and not too strong spring. In the Bassini operation the anatomic parts are restored. Separation of the cord by the fingers, from surrounding structures, is an essential feature. The sac should not be opened until thoroughly separated. Pass the finger well into the cavity and tie on the finger. This will prevent including part of the omentum and intestine, which has frequently been done. It is an important point and was emphasized. We also in this way are liable to place the ligature well on the peritoneum, and get rid of the infundioulum which nature has left.

TRAUMATIC TETANUS.

Dr. JOHN A. LEWIS of Georgetown read a paper in which he pointed out that the origin is often most puzzling. Of paramount importance is prevention; old treatment absolutely valueless; new treatment by serum is not to be accepted without further investigation. In the first twenty years of practice he had twenty cases, in the last ten years but one case, that in a lying-in woman, three weeks after instrumental delivery, with death three days afterward, from tetanus. There is a dropping off in the cases in the last ten years of practice, which he believes due to a more general use of anesthetics in surgery, making more complete surgery possible. Wounds are freed from foreign substances, and thorough asepsis is possible. Surgeons were less plentiful thirty years ago, and anesthesia not generally used. Then this kind of wound was left to take care of itself; no drainage, pus burrowed, marvelous (?) drawing poultices applied. The advanced method of teaching and graduation requirements gives more careful treatment.

There are two forms, acute and chronic; acute occurring a week or ten days after the wound, and violent and fatal; chronic, from an old injury, which has nearly passed out of mind, as frost bites. Treatment has little to do with recovery; time is a prominent factor. He believes it an acute infection, since the bacilli are often found in gardens, street dirt, excrement of animals, especially horses, and virgin soil. The germ is anaërobic, and must have a wound for its development. Bromid and morphia are of no value; 95 per cent. die. The best treatment is the preventive. Every wound, no matter how trivial, should have the best of modern surgery.

Dr. LECKE of Leitchfield does not agree that medical treatment is of no value. He related a case in which there was an injury received from a mower. Ten days afterward tetanus developed, amputation having been done. Heavy doses of bromid of potash and chloral were given, and the patient recovered.

Dr. I. A. SHIRLEY of Winchester reported one case recovering under antitoxin use. The wound was from a splinter in the foot, and developed tetanus in a few days. All his other cases had died; morphia and chloral were of no value.

Dr. T. B. GREENLY of Meadow Lawn, in fifty-four years of practice, had seen two cases, both recovering under morphia and chloroform. One case seen late in the attack, in consultation, died.

Dr. W. C. DUGAN of Louisville stated that all of his cases of traumatic tetanus died. Injuries to the foot and hand are liable to develop tetanus because of the impregnation with dirt and other bacilli. He advised the use of peroxid of hydrogen, as the germ is anaërobic.

Dr. LEWIS, in closing, mentioned having known cases to recover under all sorts of treatment. In his observation the treatment was practically worthless. He believes the suggestion of the previous speaker in regard to peroxid of hydrogen a good one.

HYGIENE OF VISION. READABLE PRINT.

Dr. WM. B. MEANY of Louisville, in his paper, said in part: We are confronted with hygienic and sanitation attempts by unenlightened individuals or, worse, a barbaric ignorance and a reckless indifference to the laws relating to health and to human life. Full acquaintance with the rich literature of modern hygiene and sanitation should be required by law of all persons seeking election as school trustees or appointment on school boards. Unless our school system provides the necessary aids by which the act of vision is performed the accommodation apparatus refuses to work in the normal way. Imperfect light, bad print on unsuitable paper, impure atmosphere, faulty ventilation, overheated and crowded school rooms, unwholesome water supply, lack of suitable recreation halls and grounds, too long continuous study hours impair muscular tonicity so necessary to keep up eye tension for acute visual requirements.

Blackboards should be placed opposite windows—kept scrupulously clean, so that the dark, lusterless color of the board presents. Lessons placed on blackboards for pupils to copy are injurious to the eyes, by reason of the rapid change of focus required from the distant board to the paper on the desk. The deadly septic-generating slate should be banished from the schoolroom.

All work placed on the blackboard for object-lessons must have a certain minimum that the area of each letter will correspond to the square of a visual angle equal to five minutes (one twelfth of a degree) and should be at a distance of not less than fifteen, or better, twenty feet from the nearest pupil, for beyond this distance the objects to be looked at are brought to a focus on the retina and produce a clear image with the minimum effort or strain of the accommodation on the part of the normal (emmetropic) eye. The normal eye should never be subjected for any length of time to a type smaller than one-sixteenth of an inch. The size of the type must be such as to maintain a just relation between the length of the line (not to exceed four English inches—100 mm.), and the ideas to be conveyed by the printed matter, but not so small as to require an effort to decipher it; and the lines must not be long enough to cause fatigue by undue use of the rotators of the eye; in short, all the appointments of the school should be so regulated as to give the eye a fair chance.

A NEW DEVICE FOR MODIFICATION OF MILK.

Dr. HENRY E. TULEY of Louisville presented this device, consisting of a measuring glass, containing seven panels, on each of which was marked by horizontal lines the amount of each ingredient of the milk mixture to produce certain formulæ. The material needed is milk, skimmed, 20 per cent. cream, water and milk sugar. The results are practical and the method easy of use. Reference was made to the gradually increasing use of modified cow's milk as an infant food, and a plea made for its more general use.

PROFESSOR BRISSAUD of Paris, agrégé, has been elected to the chair of the history of medicine, vacant since the death of the last incumbent, some months ago.

Illinois State Medical Society.

Abstract of Proceedings, Forty-ninth Annual Meeting, held at Cairo, May 16, 17, and 18, 1899.

(*Concluded from page 1174.*)

SECTION ON STATE MEDICINE.

Dr. C. B. JOHNSON, Champaign, chairman.

PREVALENCE OF ALCOHOLISM AND ITS INFLUENCE ON MORTALITY.

Dr. GEORGE W. WEBSTER of Chicago summarized his studies and observations in the following conclusions:

1. Alcohol acts by destroying congenital immunity, increasing susceptibility, favoring by its direct influence the development of pathogenic micro-organisms, lessening the absolute strength of muscles, obtunding the delicacy of the special senses, causing changes in the nervous system whereby insanity is produced, the latter being transmissible, inducing inebriety, which is a nervous disease and hereditary, and increasing the death-rate both directly and also by its tendency to exterminate the race, and directly causing such diseases as cirrhosis of the liver and chronic nephritis.

2. As a result of the foregoing, infection is favored, the healing of wounds retarded, the infection of them by erysipelas facilitated, and the mortality increased.

3. The liability to infectious disease, especially tuberculosis and pneumonia, is very greatly increased because of the increased susceptibility, diminished powers of resistance, greater readiness of germ development, less care in providing against exposure or in providing proper clothing, and also because the portal through which death enters in a case of pneumonia is commonly the right heart, and its absolute strength being impaired, the mortality is thus increased.

4. Alcohol is one of the most potent factors in the etiology of cirrhosis of the liver, chronic nephritis, general arteriosclerosis, and the non-inflammatory diseases of the heart.

5. Alcohol is the chief cause of most of the cases of murder, suicide, and many other deaths by violence and accident.

6. Alcohol has caused more deaths in Chicago in the last three years than has smallpox in the last forty-three years.

7. The mortality lists for Chicago are not introduced by way of criticism of the department of health, because it does not assign the causes of death, it simply records them; but rather to show that they are misleading and fallacious because members of the profession are not calling things by their right names. It is done out of respect for the feelings of their friends; why not call smallpox an eruptive fever for the same reason, shut our eyes to its presence, put up no warning cards, and make no effort to stamp it out or prevent its occurrence? We may argue that alcohol kills not less surely.

8. At least a part of the mortality is fairly chargeable to the medical profession because of a want of knowledge of the action of alcohol, and because of its improper use as an alleged stimulant.

9. Drs. Kerr and Richardson of England estimate that 10 per cent. of cases of death in England and Wales are due to alcohol. Dr. T. D. Crothers of Hartford, Conn., estimates that 50 to 60 per cent. of all inebriates die directly from that cause. Dr. N. S. Davis of Chicago estimates that 50 per cent. of all cases of chronic nephritis, cirrhosis of the liver, non-inflammatory diseases of the heart, cerebral apoplexy and deaths by violence are due to alcohol. Undoubtedly, we may safely charge more than 10 per cent. of all mortality of all large cities to alcohol, thus making the death-rate in Chicago alone over 2300 per year.

10. To be successful in the fight against alcohol, medical men can, more than any others, contribute substantial aid by calling the attention of medical men to this disease of contemporary humanity, by calling things by their right names and designating alcohol as a narcotic, not a stimulant, in their writings and speaking about it; by taking the necessary steps in the investigation of its effects, and then a concurrence of opinion in teaching both publicly and privately as to what constitutes an inebriate, and then his relationship as a diseased person toward the church, the law and the medical profession.

NERVOUS COMPLICATIONS AND MEDICOLEGAL RELATIONS OF ALCOHOLIC INEBRIETY.

Dr. DANIEL R. BROWER of Chicago pointed out these complications and relations. The constant characteristic nervous symptom is the tremor. In acute alcohol it occurs only on movement, and is irregular and coarse; it is most conspicuous in the arm, face and tongue. In chronic alcoholism, the tremor is voluntary, fine and regular, and seen in the hands, lips and tongue. Acute intoxication, acute alcoholic mania and delirium tremens are the three ordinary mental manifestations. The first and third are common; the second is quite rare, and they lead to alcoholic dementia, or alcoholic general paresis. Acute alcoholic intoxication is most promptly relieved by a hypodermic injection of $\frac{1}{60}$ of a grain of apomorphin to produce emesis, to be followed by full doses of strychnia sulphate, and chloralamid in from fifteen to twenty grain doses, with an abundance of easily digestible food, to which red pepper should be freely added. In acute alcoholic mania a combination of sodium bromid, 20 grains, with the hydrobromate of coniin, $\frac{1}{50}$ of a grain, every three or four hours, to subdue the excitement, followed by strychnia sulphate, with an abundance of nutritious food is good treatment.

In delirium tremens the indications are to produce sleep and to sustain strength, and they are met by paraldehyde in 30-minim to dram doses, or trional in 20-grain doses, repeated, if necessary; a generous diet, with strychnia sulphate in full doses.

Another important nervous complication is multiple neuritis. Probably over 50 per cent. of all the adult cases of multiple neuritis are alcoholic. The indications for treatment of alcoholic multiple neuritis are to quiet pain, sustain the patient, and relieve the resulting paralysis.

The medicolegal relations of inebriety are important; but its jurisprudence needs to be rewritten. Law is eminently conservative, and it is to-day one hundred years behind the progress of neuropathy. Medicolegal relations may arise with reference to life insurance. That excessive drinking does impair the health is beyond dispute, and life insurance companies ask plain questions as to the existence of indulgence. Life insurance companies undoubtedly lose largely from alcoholic inebriety. Evidence of an intoxicated person is not competent; but the fact that a person has been declared an habitual drunkard does not raise the presumption of incompetency. A confession made by an intoxicated person is admissible as evidence against himself and others, provided it is corroborated by circumstances. Contracts made by an intoxicated person are voidable, but in order to void them, it must be shown that the degree of drunkenness must be such as to deprive the defendant of his understanding and make him what in law is called *non compos mentis*. An alcoholic inebriate is not necessarily incapacitated for making a will. It must be shown, in order to invalidate it, that he was both intoxicated and incompetent at the time. Habitual drunkenness for two years in the State of Illinois gives good grounds for divorce proceedings. In the State of Illinois an habitual drunkard may be pronounced by the courts incapable of managing his estate.

The author believes that physicians should have the power to confine the alcoholic inebriates in suitable hospitals for a sufficiently long time to eradicate at least some of the effects of the drug upon important organs. One or more years of continuous treatment will be necessary in many cases to produce permanent results, and the power to so restrain for a sufficient time should be given by proper legislation.

The society has decided to publish a monthly journal to take the place of the annual volume of Transactions, and it is thought that the membership can be increased more rapidly in this way.

The following officers were elected for the ensuing year: president, Harold N. Moyer, Chicago; first vice-president, J. T. McAnally, Carbondale; second vice-president, Weller Van Hook, Chicago; treasurer, George N. Kreider, Springfield. Place of meeting, Springfield, the third Tuesday in May, 1900.

Denver and Arapahoe Medical Society.

Regular Meeting, held May 23, 1899.

RABIES.

Dr. CHAS. GRESSWELL, M.R.C.V.S., read this paper and said in part: There is more mystery and less accurate knowledge of this disease, both in animals and man, than is the case in any other disease known. At the same time it is one of the earliest diseases mentioned in history. Ignorance and superstition have had the full effect in the determining of people's minds to one side or the other as to the real existence of a terrible and infectious disease, certainly communicable to all animals, or the absolute denial of the existence of rabies.

It is needless to say that both extremes, in the light of present-day investigation, have been proved to be wrong. Rabies does exist in animals, and is also capable of being communicated to man, but not with the certainty that all writers supposed in all cases, nor with the train of horrible symptoms so vividly portrayed by the present-day reporter of sensational news.

The symptoms may be briefly described as follows: slight

increase of temperature on the first day, from 1 to 3 degrees; dry throat; constipation; torpid liver; acute indigestion; restlessness; sleeplessness; increased activity of the cerebro-spinal nerve-centers. In the day, these symptoms are especially characterized by a marked change in the disposition of the animals. They may become either exceptionally affectionate, constantly trying to jump upon their masters, with an evident desire to lick them, or to take hold of the hand or arms with their teeth. Or, on the other hand, they will be from the first morose, moody, shunning the light and all companionship, and be generally restless and snappy. During this period they will eat all kinds of food they have been hitherto unaccustomed to. This stage lasts from twelve to thirty-six hours. Then the affectionate manner turns into a more or less vicious attempt at biting, the tendency being spasmodic, intermittent and convulsive. When the animal has bitten it seems immediately ashamed of itself, and will cower down when spoken to, and retire to the most secluded place it can find.

In this stage, there at intervals appear a dilatation of the pupils and a peculiar expression on the face, characteristic of impending mania or delirium. The gastric symptoms are more marked. The animal, after twenty-four hours, will become more irritable and more inclined to bite when interfered with, and will soon start out and leave its home. The salivary secretions are increased. There is convulsive action of the muscles of the head, face and throat, intense thirst, and swallowing is accompanied with some difficulty at first, gradually increasing until scarcely anything can be swallowed on account of the spasmodic action of the muscles in and around the throat.

During these first three days brain symptoms may occur at intervals, but with the peculiarity that perfect lucidity can be restored at a word of command from the master, but they immediately recur the moment the master's attention is called off. The symptoms are characterized by hallucinations of various kinds, evidenced, in the dog, by snapping at imaginary foes or jumping in the air to catch at imaginary flies. After three or four days of these symptoms, the disease will develop into either the form known as furious rabies, when the animal will attack almost anything or anybody, or it may develop into the form known as dumb rabies, when the lower jaw becomes paralyzed and drops, with little or no power of the animal to close the mouth. In the furious form the animal may live from twelve to thirty-six hours; in the latter form it may live from three to five days. The most common form is that of dumb rabies; the animal being comparatively harmless.

Treatment.—It has been claimed by some that in the early stages, very large and repeated doses of calomel have the effect of arresting the progress of the disease. Dr. J. J. Ligget records (*Med. News*, March 18, 1899) a cure of a case in a man by means of the exhibition of 260 grains of calomel.

Here the author gave an account of a recent outbreak of rabies in Colorado. There have been in all 150 cases of a contagious disease among dogs in Denver and the neighborhood. In almost all cases a previous bite from another dog occurred. All cases, if left to themselves, died on or about the ninth day. Some developed the disease from fourteen to twenty-one days after. Be the disease rabies or not, it is sufficiently fatal to dogs to require the active interference of the authorities.

Rabies is comparatively frequent in animals, especially dogs, in this country. It is communicated to other animals by direct contagion only. It is claimed that one of the skunk species, while healthy itself, is capable of communicating the disease to other animals. The carnivora are most susceptible to rabies, omnivora less susceptible. The period of incubation after direct inoculation varies from five to twenty-one days in rabbits, from five days to three months in dogs, and from twenty one days to thirteen weeks in man. The virus is not taken up by the blood-vessels direct, but by the nerves. Cauterization, even after an interval of twenty-four hours, is highly preventive of the after-effects of virus, injection of fuming nitric acid being the most successful.

Spurious rabies in man is an undoubted fact, and is a nervous or hysteric condition induced by fear of the disease. It can be distinguished from true rabies by absence of increased temperature, no salivation, absence of aversion to light. Another point of great distinction is the fear of water in spurious cases, whereas in the scientifically recorded cases there is no fear of water, but of the convulsion which the act of swallowing water causes.

As the percentage of human infection from animals is at the worst only 15 per cent., and as thorough cauterization in even twenty-four hours after the bite will reduce this to 1.35 per cent., it is fair to presume that treatment of ordinary bites as quickly as possible will reduce the human infection to a minimum. If to these precautions there is added the Pasteur treatment where large and important nerves are torn, it is safe to assert that medical science has won a victory as complete or more so than in the antitoxin treatment of diphtheria.

RABIES IN A BOY.

Dr. E. P. AXTELL reported a case in a boy 8 years old, who was bitten on the lip, Nov. 2, 1898. The dog at once hid itself under the bed and could not be induced to come out. The lip healed kindly under treatment. November 26, the boy took cold, ate but little and complained of soreness in the throat. November 29, for the first time, he complained of stiffness of the neck and inability to swallow. When seen in the morning, he was sitting in bed, perfectly rational, exceedingly nervous, and could not maintain one position for any length of time. He answered questions rationally, watched the door and seemed to be on the alert for any sudden noise. Pulse was 126, temperature 101.4, respiration not specially disturbed, except that he would make a deep sighing respiration occasionally; reflexes exaggerated; throat slightly congested.

Had some water brought the Doctor to wash his thermometer in, and the boy began to whine most pitifully, his eyes stared, and he went out of the bed on the opposite side with lightning-like speed. The fear depicted on his face was that of impending death. On coaxing him, the minute he would make up his mind to take the glass, he would jump away chattering with fear.

In the afternoon the symptoms were much the same. He passed urine freely and his bowels moved. The tendency to take deep inspiration was more marked. Late in the evening he was still wide awake, active, nervous, anxious, alert to every sound, and rational. He was given morphin.

In the morning he was worse, and appreciating the fact that he was going to die, he talked affectionately to those about him. He was tossing his arms and legs, twisting his head, and his speech was choked in the midst of a word. He complained of pain in the left thigh, of cramps in his left leg and in both arms. Drs. Eskridge, Sewall and Mitchell saw him that morning. Dr. Eskridge tested him with a glass of milk, which he took in his hands, looked at it for a long time, made some effort at swallowing, and declared he could not drink it. He was told to soak some bread in milk and eat it, but when the milk would drop off the bread he would at once get nervous and want to have the glass put away from him. After allowing the milk-soaked bread to drain off, he could then take and eat it; pulse 132; temperature 102.

From that time the course of the disease was steadily and frightfully progressive. Even under the influence of large doses of morphin he would have spells of fear and intense hyperthesia. A definite spasm of the cervical muscles was now noticed, pulling the mouth open and causing him to take a jerky irregular respiration. Fear of impending danger was marked on his countenance. He uttered peculiar sounds which were akin to the low bark of a dog. About noon the first evidence of salivation began, which was persistent and copious until his death, which occurred at 5:30 P.M.

Dr. J. T. ESKRIDGE thought it high time the physicians of Denver should seriously and scientifically study the question of rabies, for there is not a shadow of a doubt that cases of rabies have occurred in Denver and its vicinity. He wished to take issue with the first speaker's statement that the virus is taken up by the nerves. The subject has been thoroughly discussed by Gowers, Mills, Horsely and others, and the weight of the arguments is against this theory. The theory itself was first advanced by Pasteur. But for the effects of the poison to be carried to the central nervous system by the nerves it has to be done by a neuritis extending from the distal portion of the nerves to their spinal cord or medullary origin. This has never been found. It is indeed inexplicable how the nerves otherwise can conduct the virus, or the effects of it, to the medulla and spinal cord, the parenchyma of the nerves being free from lymphatic or other vessels. He had never observed the affectionate stage of which Dr. Gresswell spoke. The stage that he observed can be described as one merging into melancholy. He thought the absence of the affectionate stage in a Delaware epidemic he had seen might be due to the fact that they were country dogs. He was not certain whether anybody is able to distinguish the howl of a rabid dog.

As to the rabid dog eating all kinds of food, this can not be considered a distinctive symptom. Dogs in good health will eat all kinds.

The phenomenon of arousing the dog from his delirium by calling to him is not limited to rabies. It is present in man in cases of brain abscess, and it may be present in meningitis in dogs or other animals.

He does not think that the poison gives rise, directly, to the disease. The probabilities are that the poison is retained in or near the wound, and probably a micro-organism. This may

be encapsulated and a secondary poison develop from this, which may give rise to the disease days, weeks or months later. Those cases where the disease followed the bite one to many years after its infliction, he was not trying to discuss. They may be genuine and they may not. From the fact that the poison does not immediately find its way into the general circulation, we are encouraged to use timely and thorough cauterization of the wound.

The period of incubation is certainly longer in man than in dogs. Its average duration is probably from a few to a number of weeks. It is said to be shorter in woman than in man, some giving the average duration in man at twelve weeks and in woman nine weeks. Those cases of prolonged periods of incubation extending from one to as many as eighteen years, are extremely doubtful. This long incubation period is a great stumbling-block. Dullers of Philadelphia is certainly one of our brightest men, and yet he was led astray by this long period of incubation, and went to the extreme of utterly denying the existence of such a thing as rabies in man at least.

Dr. Eskridge does not think that a dog free from rabies poison is able to communicate rabies to man. All such cases may be due to the fact that the dog had an attack of the mild form of rabies, or the poison may be in the saliva of a dog recently engaged in a fight with a rabid dog.

When he saw Dr. Axtell's case the first time, he was not ready to admit that it was a case of rabies. The symptoms were not pronounced on account of the morphin treatment. But when he saw it the second time, all was changed. Of especial diagnostic value was the jerky inspiration. Thus it is obvious that we may through our treatment so mask the symptoms that it would be impossible to make out the diagnosis.

The temperature of rabies in man is rarely normal. It may range from 99.5 to 101 in the early part of the disease, but will frequently reach 102 to 103, and may go to 104 or 105 F. It has been known to rise twenty minutes after death to 108.8. The pulse as a rule is exceedingly rapid. The respiration is not only rapid, but peculiarly jerky, especially during inspiration.

The diagnosis is based on the history, though it must be accepted with caution. The patient may have been bitten by a dog, yet he may suffer from something else than rabies. The spasms of the muscles of deglutition and of respiration are the most important points. The fear of water may be absent.

Differential Diagnosis:—Acute insanity may be almost impossible to differentiate, unless death supervenes, in which case the rapidity with which death occurs in rabies never occurs in acute insanity.

In meningitis, the cranial nerves are affected, while diverging eyes, inflammation of optic nerves, absence of spasm of inspiration are against rabies.

Meningeal hemorrhage may be very difficult to differentiate, but the local symptoms are more marked. The jerky inspiration, if present, differs from that of rabies, and there is no fear of water.

In tetanus there is lock jaw and no jerking inspiration. Hysteria may be superadded. He has seen a case of hydrophobia complicated by hysteria. Pseudo-hydrophobia is nothing else but hysteria.

Chicago Academy of Medicine.

Regular Meeting, held April 14, 1899.

DIETETICS.

Dr. HAROLD N. MOYER opened the discussion, saying: Dietetics touches every branch of medicine. I desire to say a word or two about too much food or *luxus consumption*. We can divide persons into two classes: Those who eat too much, and those who eat too little. A large proportion of the human race fall within the class of those who eat too much; it is difficult to say what is too much. In this connection I wish to refer to a long series of observations made by a German author, whose name I can not at present recall, in which he analyzed the total nitrogenous output in relation to the food supply. He found, among certain classes of underfed peasantry, the average nitrogenous output only about half of what it was in those who were well fed. It is questionable which class is better off, those who are underfed, or those who are overfed. A careful study of cases does not tell us whether those who consume an excessive quantity of food are benefited by it any more than those who take just sufficient food to keep their tissues from absolute waste. The question of excess of consumption of food is necessarily associated in many minds with an increase of uric acid or the so-called uric acid diathesis. This phase of the subject is about on its legs, and a more fashionable theory is coming into vogue, namely, auto-intoxication. I refer to the extractives of urine which contain nitrogen. Whether or not it is to be attributed to uricacidemia or auto-intoxication, there is a sort of feeling in the profession—and it is reflected in its practice—that in some way there is an accumulation of these substances in the body, and failure to eliminate them causes certain diseased processes. The deduction is then drawn that these substances would not be within the body if people did not eat too much; if, in other words, there was not a luxus consumption, and people are dieting themselves on that basis. If we take the experiments of physiologic chemistry, on the other hand, we find urea is a diuretic which has been given in Bright's disease and various other affections, it being a nitrogenized product of retrograde metamorphosis which stimulates the renal function and promotes elimination. How far it is true that luxus consumption or increased blood supply stimulates the kidneys and emunctories, instead of blocking them and making it difficult for the emunctories to get rid of the waste products, we do not know. So much for that branch of the subject.

I wish to invite your attention briefly to a phase of the subject which I consider quite important, and that is the question of starvation or underfeeding patients. While this may be true of people that are considered well, I am satisfied there is another branch of dietetics, particularly in relation to the sick, in which we give too much food. I am convinced of this in cases of typhoid fever and other conditions. I believe too much food is given, and that many such cases would be much better off if they were not given as much food. The idea is that the strength of the patient must be supported, and if you can put food enough into him it is going to impart vitality enough to tide the patient over the effects of the disease, and then he is going to get well. This is an error. Experiments go to show that animals with varying forms of acute infection that are not fed have survived longer than those that have received food, particularly those infections with the typhoid bacillus. Possibly the food introduced into the intestinal canal furnishes a culture-medium; it increases the number of germs rather than diminishes them, and our fathers were not so far away from the facts when they literally starved their patients and physicked them. It might be better if we did a little more purging and starving of patients.

Of late I have been starving some of my acutely sick patients with great benefit, but the laity object very much to starvation, believing that if they miss a meal it is dangerous. It is in this class of cases that beef tea is of such great value. It is practically a starvation diet, and at the same time strongly suggestive of food and strength.

DIETETICS IN OBSTETRICS.

Dr. C. S. BACON read a paper on this subject, to appear in full in the JOURNAL.

DIETETICS OF CHILDREN'S DISEASES.

Dr. ROSA ENGELMANN, in her paper, said that as early life divides itself into the periods of infancy and childhood, so does its dietary conform to these periods. In health as well as disease it differs materially from that of adult life. By reason of nervous instability and physiologic peculiarities of digestion and circulation almost, if not all, diseases to which young patients succumb are ushered in by gastro intestinal disturbances that are treated accordingly, viz., as if for primary gastro-intestinal disease.

Except in the inanition fever of the first few days of life, not food, but absolute abstinence from food for from four to eighteen hours, is indicated. Next, the regulation of the existing diet, or a substitution for a predigested concentrated liquid form, is desirable. If a suckling be affected, the breast is withdrawn for a period of from four to six hours and iced egg-albumin-water or whey used for a like period. If, after an examination of the mother's milk, it still continues to disagree with the babe, its food is artificially supplemented by cream and water. If patient effort fails to change the character of the wet nurse's milk, then the question of artificial feeding confronts us.

Colonic flushings are an important factor in the withdrawal of food products from the lower as well as the upper bowel, by reflex peristalsis. Ice pellets and water are essential adjuvants in the feeding of sick children. Primary withdrawal of food and a later regulation or change of the same applies as equally to bottle fed babies as to nurslings. Since the former are notoriously ill fed, in a measure, the entire subject can be summed up under the heading of modified milk. The time limit prevents my entering into the details of this matter. Temperament and disposition in older children is another serious element that requires consideration, for no matter how tractable and placid a child may be when well, the irritability and nervousness of disease interfere radically with proper nourishment. A nervous dyspepsia often occurs that even induces

rejection of food by vomiting. Another immediate feeding is indicated. Thus we are obliged to depend on concentrated nutriments and stimulants of small bulk, such as somatose, peptonoids and diluted whisky, often for days at a time, until we can return to the ordinary liquid fare of milk, broths, orange juice, etc.

In grave emergencies I often call on the skin for service, using oil, lanolin or cocoa-butter by inunction as supplementary aliments. I reserve rectal feeding or the stomach-tube as a last resort. As children approach the age of puberty, the adult dietary of disease is adopted. The simplicity of the health dietary in children in a measure simplifies that of disease.

(To be continued.)

State and Provincial Boards of Health of North America.

This body held its fourteenth annual conference in Richmond, Va., May 24 and 25. Sixteen States were represented. The discussion of the proposal to establish a national health bureau elicited the liveliest discussion, and the longest. The result was nearly a unanimous vote, endorsing the Spooner bill.

DANGER OF YELLOW FEVER.

Dr. FELIX FORMENTO of New Orleans, president of the organization, discussed this subject. He dwelt especially on the importance of the topic relating to the necessity of extra precautions to prevent the importation of infectious diseases from the new possessions of the United States. He said that of all foreign infections which threaten this country, yellow fever is the one to be most dreaded. The plague has not always limited itself to the South, and the danger of more northerly sections becoming infected is greater now than ever before, owing to all parts of the country being so closely connected by means of rail and steamship lines.

In the meantime, to guard against this importation, to protect as far as practicable our extended shores, there seems to be one system which, while securing protection to the whole country, offers justice and impartiality to all sections, North and South, with no undue discriminating commercial advantages to one port over another. This system can only be enforced by the United States Government. It consists in the disinfection of all ships, with their crews, passengers and merchandise, sailing from an infected port for any port of the United States, at the very point of departure, and not at the home port of arrival, where varying State and local laws and interests are often in conflict and quarantine practices often entirely inefficient. The same rigid regulations should apply to all points of destination, North as well as South, for nowadays, with our unlimited railroad facilities, the disease, once introduced through any of our ports, may soon be carried all over the country, developing and spreading naturally in those sections whose climate and sanitary conditions are most favorable to the disease. All home ports should be put on the same footing, and the same measures should apply to all passengers, whether destined to northern or southern points. A ship having been disinfected and purified at Havana, for instance, arriving at an American port, would only be detained at quarantine for a sufficient time to cover the period of incubation. This system would render impossible an occurrence which I have often witnessed in New Orleans, namely, the arrival in that city of passengers, baggage and merchandise from Havana via Tampa or New York (with little or no restrictions) several days before the release from our Mississippi quarantine station of steamers which had left Havana direct for New Orleans on the very day those coming via New York had sailed from Havana.

In conclusion, Dr. Formento stated that since preparing his address he had learned that vessels destined to some parts are recently being disinfected at Havana. If this is done by the Government, it is a move in the proper direction and serves to confirm his views on the subject. But to be really efficacious, he thought the system should be practiced in all infected ports, and should apply indiscriminately to vessels sailing for all American ports.

ANTITUBERCULOUS LAWS.

Dr. PELLETIER of Quebec, in his treatment of this subject, held that all animals, alive or dead, should be subject to inspection; that every owner having an animal known to be suffering from a contagious disease, or every veterinarian knowing of the existence of such affections, must report the same to the proper authority. The owner of an animal suffering from such disease should not be allowed to sell it without informing the buyer of the fact. He thought it important that laws regarding the importation of diseased cattle should be strict, and that any animal which belongs to the food class, when affected by any disease, whether contagious or not, should be killed only in the presence of an inspector.

Dr. HURTY of Indiana explained what was being done in Indiana to stamp out the disease. The newspapers were first used to stir up public sentiment to the dangers of the plague, and then the Indianapolis Board of Health induced a dairyman to have his sheds made to conform to the proper sanitary model, and then to have his cattle tested for disease, the board promising to give him a certificate setting forth that his cows had been tested and were healthy. The day this certificate was published the dairyman was overrun with customers, and all the dairyman in the city wanted their cows tested. Every dairy herd supplying Indianapolis is now tested. He gave other instances of what had been accomplished in Indiana towns in the direction of purer milk.

American Medico-Psychological Association.

The fifty-fifth annual meeting of this association was held in New York City, May 23.

PRESIDENT'S ADDRESS.

Dr. HENRY M. HURD of Baltimore, in his presidential address, expressed regret that the students in our medical colleges were afforded so little opportunity for the practical study of insanity. He also spoke of the urgent need of the establishment in all large cities of detention hospitals for the insane poor, who often might be cured in such institutions without having to suffer the stigma of a commitment to a State asylum.

PRACTICAL VALUE OF PROPHYLAXIS IN MENTAL DISEASE.

Dr. A. B. RICHARDSON of Massillon, Ohio, in this paper, presented the danger of hereditary transmission. While it was possible in certain cases to calculate the aptitude of transmission of mental defects, he said, in the majority of instances marriages between persons inheriting tendencies to such defects should not be permitted. It was high time that attention should be given to the breeding of children, as well as to that of horses and dogs. In this connection he advocated such modification of our school systems as would relieve children inheriting mental defects from the strain of close competition with normal children.

Dr. EDWARD COWLES, Waverly, Mass., held that heredity was not commonly the determining cause of insanity, but that the latter was the result in all cases of distinct pathologic processes.

CONTAGION OF INSANITY.

Dr. RICHARD DEWEY, Wauwatosa, Wis., presented this topic. He spoke of the liability of those living in close association with insane persons to themselves contract mental disease. Incidentally he advocated the somewhat radical measure of judicially ending the lives of the hopelessly insane, and expressed the opinion that this would ultimately be adopted.

LEGAL VS. SCIENTIFIC TEST OF INSANITY IN CRIMINAL CASES.

Dr. CHARLES J. MACDONALD, New York, read this paper. Having stated that the highest court of the State of New York had decided that the test on which the responsibility of a criminal who pleads lunacy is established is, the knowledge of the distinction between right and wrong, and the knowledge of the quality of the act which has been committed, he said that such a test is in direct conflict with the law of nature and the discoveries of science. An abstract knowledge of right and wrong is not uncommon in many cases of insanity. Insanity in its relation to crime is always a fact to be determined by medical science, and whenever it is so determined, the fact should be sufficient to acquit. The legal test referred to is a serious menace to human rights and liberties, since only a small percentage of the insane who come under the jurisdiction of the courts belong to the types in which there occurs a loss of the knowledge of right and wrong. The real questions of fact to be decided in the case of a criminal pleading insanity are two: 1. Did the defendant at the time of the alleged crime rationally apprehend its nature, and, if so, did he possess the power of the will to choose between right and wrong? 2. If he had lost the power of choosing, with reference to this particular act, was the loss due to disease or to the heat of passion, or some other self-induced state?

ANNUAL ADDRESS.

Dr. FREDERICK PETERSON, in this address, advocated the establishment in all large cities of State hospitals for acute cases of mental disorder, to be known as psychiatric hospitals or clinics, to which should be attached a variety of laboratories where the biologic side of man could be studied by experts.

Officers were elected as follows: president, Jos. G. Rogers of Indiana; vice-president, P. M. Wise of New York; secretary and treasurer, C. B. Burr of Michigan. The next session will be held at Richmond, Va., beginning May 1, 1900.

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SATURDAY, JUNE 10, 1899.

ACUTE ANTERIOR POLIOMYELITIS.

The question whether acute anterior poliomyelitis is a primary degenerative parenchymatous process, or an interstitial inflammatory change connected with the vessels, has remained a disputed question since the time of CHARCOT. BULOW-HANSEN and HARBITZ[1] had occasion to study two cases of acute anterior poliomyelitis, in which death occurred in one case on the seventh, in the other on the fifth day. The cases concerned young brothers, one 5 years old, the other 4; the third brother, 2½ years old, was also attacked at the same time but recovered.

Nothing definite could be found in regard to the external etiology of this small group of cases. The changes in the two fatal cases were quite alike; there was quite marked hyperemia of the cerebrospinal membranes, with some perivascular invasion, especially in the bottom of the anterior commissure. The hyperemia has spread to all the vessels in the spinal cord, and also up into those of the medulla. Where the hyperemia was most intense there was also more or less exudation and round-cell infiltration, together with proliferation of the neuroglia. In both cases the inflammatory phenomena were most marked in the cervical enlargement of the cord. This part of the cord was remarkably soft, and even with the naked eyes changes could be noticed upon the cut surface. The distinction between the white and the gray substance was not as plain as normally. Where the inflammatory process was most marked the ganglion cells in the anterior horns were largely absent. In the less noticeably affected areas the ganglion cells appeared small and shrunken, the protoplasm granular, and the nuclei indistinct. In other places, but more rarely, the ganglion cells were larger and more or less vesiculated. These changes in the ganglion cells were closely connected with the inflammatory vascular changes already described, showing that the development of the morbid process was closely connected with the blood-vessels. In both cases the inflammatory changes extended for a longer or shorter distance up into the medulla.

STRUMPELL, as long ago as 1884, expressed the opinion that acute poliomyelitis and acute multiple neuritis are acute infectious diseases of similar origin. One of the strongest evidences in favor of the infectious nature of acute poliomyelitis is its occasional appearance in the form of an epidemic. In 1890 MEDIN reported an epidemic in Stockholm and vicinity, in which 43 cases occurred, with 3 deaths; CORDIER described an epidemic in Lyons, in which 13 cases occurred, with four deaths. MEDIN states that he has not been able to find any case in the literature, of more than one attack in the same individual. It is unnecessary to say that the clinic picture of many cases of acute poliomyelitis speaks in favor of its infectious nature. Emphasis should also be laid on the marked gastro-intestinal symptoms present in many cases. The presence of parenchymatous changes in the internal organs, such as the liver and kidneys, the splenic swelling and the enteritis, are noticeable evidences of the infectious nature of the disease.

But the great and important question as to the exact nature of the infection and its mode of entrance into the body is still open. The few bacteriologic examinations which have been made throw no light on this problem. BULOW-HANSEN and HARBITZ review the cases in the literature in which the post-mortem was made during the acute stage of the disease, including their two cases. Eleven such instances are now available for any deductions that may bear on these points. The number is small, but the presence of marked changes in the intestine in four cases suggests that the intestinal tract may be the point of invasion of the disease. In some of these cases the acute gastro-intestinal symptoms began several days before the nervous symptoms developed.

Thorough bacteriologic examinations have been made in very few cases, only three in all, and two of these are the cases reported by BULOW-HANSEN and HARBITZ. In these cases the examination was entirely negative.

Animal experiments have shown that the inoculation with pathogenic microbes or their toxins may produce spinal-cord diseases, which resemble very much certain well-known human diseases, especially anterior poliomyelitis, progressive muscular atrophy, and diffuse myelitis. These experiments have been

[1] Zeigler's Beitrage, 1899.

made especially by French investigators, particularly by ROGER and BOURGES, who experimented with streptococcus cultures.

In connection with this, reference should be made to the extensive and interesting observations of HOMEN [2] and his students, on the changes which result in the nerves and spinal cord from the introduction of streptococci into the nerves.

The so-called Landry's paralysis is also a rather obscure nervous disease, which presents many things speaking in favor of an infectious origin. In many cases of this disease the spinal cord has not presented anything pathologic; in other cases degenerative and inflammatory changes have been demonstrated, often resembling the lesions of acute poliomyelitis. In some cases microbes of different kinds have been found, and it may be assumed that this disease depends directly or indirectly on the action of various infectious agents on the spinal cord.

The great vascularity of the spinal cord and the susceptibility of the nervous system to poisons, point to the possible action of toxins on vasomotor nerves, leading to local circulatory disturbances and other changes.

While the facts at hand are too few to allow of any definite conclusions to be drawn with reference to the exact cause of acute poliomyelitis, there is much which speaks in favor of infections of various kinds, and finally, the consideration may be allowed that this disease might also depend on intoxication due to a primary focus of infection outside of the spinal cord, as for instance in the intestinal tract. Future experiments must throw further light on this problem.

TYPHOID FEVER IN CITIES.

From the reports of the registrar-general we find that during the five years, 1893–97, inclusive, England and Wales annually lost 17.7 persons from enteric fever out of every hundred thousand living. We cannot compare this rate with the mortality from typhoid fever in the United States during the same period, because we have no statistics. We have no national board, nor department of health, to gather up and consider the vital statistics of the country as a basis for inquiring into the causation and prevention of an unusual mortality. Many of our cities, however, have excellent systems of registration, and their published reports enable us to compare their rates of mortality with those of English and other transatlantic cities. The latest reports issued at the present time are those for 1897. During the five years ending with the year stated, the annual mortality from typhoid fever in London was 13.9 per 100,000 of the population. As compared with this, the average annual rate for the five years in New York City was 17.5, but a rate of 6.3 from typho-malarial and malarial fevers deserves notice in this connection; in the Borough of Brooklyn, N.Y., 15.9 with 12.4 of deaths from malaria; in Cincinnati, Ohio, 40.1 with 4.6; in Washington, D.C., 70.8 with 20.3; in Philadelphia 36 and in Pittsburg, Pa., 74.0, with practically no typho-malarial cases on the record. The excessive death-rates of this country are acknowledged by the medical profession to be due to the dissemination of the typhoid bacillus in the water-supplies. We are fully aware that this fever is propagated in other ways than by an infected water. The nurse who is careless of sanitary cleanliness, and the laundress who handles undisinfected bed linen, may become victims. The spread of the disease in the military camps of last summer shows that the infection may be propagated from man to man in the close contact of camp life through the agency of soiled blankets and clothing, and from infected soil and sinks through the agency of dust and flies. But the evidence that the water-mains constitute the main channels of propagation in our cities is too well known to require recapitulation at this time. The difference between the typhoid fever death-rates of Washington, D. C., and London, England, is an expression of the price paid by the citizens of our national capital for the failure of the authorities to give the river water-supply that degree of purification which has been effected in London. A fair approximation to the unnecessary deaths from typhoid fever in our cities can be calculated so readily and has, indeed, been presented so often by health officers and sanitarians, that it seems at first sight difficult to understand the hesitancy of those in power to apply the remedy.

Filtration, through beds of sand and gravel, is no new experiment. The first large filter of this kind was constructed in London, as long ago as 1829, by the Chelsea Water Company. A royal commission had reported that the Thames water, when free from extraneous matters, was a water of considerable purity, but that as it approached the metropolis it became loaded with much filth, from which, however, it was possible to purify it by filtration through sand, and this with all requisite rapidity and within reasonable limits of expense. In experimenting, with a view of carrying out the suggestions of the commission, the water company found that the sand bed speedily became choked by the mass of fine matter filtered from the water, but, that, if the water was permitted to stand for some hours in a settling-basin to rid it of its grosser and heavier particles, the sand filter would afterward give satisfactory results. Since then settling-basins and filter-beds constitute an essential part of the water-supply plant of every English company which pumps up river water for its consumers; and the prevalence and mortality of typhoid fever have fallen in proportion to the efficiency of the filtration. The efficiency of sand filtration

[2] Zeigler's Beiträge, 1899.

has been demonstrated by hundreds of municipalities in England and continental Europe. The cost of the installation and the subsequent working expenses can be calculated readily and closely. This question of cost has probably a bearing on the slow progress which has been made in this direction in the United States. Are we so eager after riches, individually, that we decline to expend any of our accumulated wealth for the general good, or is it that we regard the method of sand filtration as crude and below what we consider should be the standard of this advanced age, or do the climatologic conditions interfere with successful results in this country? Climatologic conditions present no difficulty which cannot be overcome by the engineer. This is merely a question of money. Our advanced age has had many years to study the subject of purification of water-supplies, but it has discovered nothing which gives better results than the sand-bed filtration of Europe. We are left, therefore, to infer that our slow progress in providing pure water for the people results from the difficulty of getting energy enough to overcome the inertia of the status quo, and from a hesitancy to put money into an undertaking which has merely the conservation of human health and life, instead of quarterly dividends, as its primary object.

The need of pure water appears, however, to have attracted attention of late in many of our cities. The pioneer work done by the Massachusetts Board of Health, in its surveys of the drainage areas of public water-supplies, and in its experiments on filtration, has been of great value. St. Louis has expended much money on its settling-basins. Cincinnati and Louisville have been investigating. Philadelphia and Washington have been discussing the prevalence of typhoid fever and reaching the conclusion that something ought to be done to remedy existing conditions. The present epidemic in Philadelphia may hasten action in that city. Meanwhile Pittsburg has presented to the public the report of a filtration commission appointed June 10, 1896. This commission, after an exhaustive consideration of the subject, concluded that the present water-supply from the Allegheny and Monongahela rivers is objectionable, because of the mud which it contains and because of its pollution by sewage. It further concluded that sand filtration and the method of mechanic filtration can be successfully used as purifying agencies; but that when cost, efficiency, durability and simplicity of operation are considered, the former method must be regarded as having given better results than the latter. As to the initial expense, the cost of the land required for sand filtration would determine in favor of mechanic filtration were other things equal. So far as concerns efficiency in bacterial removal, the weight of evidence obtained by experiment is in favor of sand filtration. The members of the commission saw filter-beds in Europe which had been in use for forty years and which bid fair to render efficient service for many times this period, while mechanic devices are subject to rapid deterioration from wear and tear. Besides, with the sand filter, slight neglects and errors of judgment on the part of workmen do not impair the quality of the water, whereas, the mechanic filter requires careful attention and nice judgment to insure purity. The weight of evidence is, therefore, decidedly in favor of sand filtration, so far as simplicity of operation is concerned. Recommendation is made by the commission for an issue of bonds to provide funds for the establishment of the filtration plant. We commend this recommendation to the city authorities of Pittsburg, and the report of the commission, as a whole, to the authorities of those cities which have an unpurified surface water-supply and large death-rates from typhoid fever.

CONSERVATIVE VS. RADICAL TEACHING.

In the discussion of the somewhat unsettled question of when to operate in appendicitis, at the late session of the American Surgical Association, an idea was brought out which, while not new, has a very important bearing on the subject and is well worth considering. One of the speakers, referring to the doctrine advocated by certain others that every case calls for operative interference, called attention to the fact that a great majority of these assumedly operative cases occurred in the practice of general country practitioners who have little experience in major abdominal operations, and who are without the hospital and nursing appliances that contribute so largely to the good results of our more successful operators. The important point in the discussion was, he said, "that conservatism ought to be advocated in dealing with cases of appendicitis, not so much for the Fellows of the association as for the surgeon who has not so much experience as those here to-day."* There is much for consideration in this view of the subject. It is well to remember that the leaders and teachers in surgery are considered as authorities, and their utterances go out to the public and the profession, and carry weight; like legal decisions, they make the law by which the correct practice is to be estimated. If it is their unqualified opinion that every case of appendicitis calls for operation, it necessarily implies that whoever fails to operate is guilty of surgical, if not criminal, neglect. We all know the value of experience, of long hospital training, of the skilled eye, of manual dexterity and of the confidence gained by prior success. The surgical corypheus has all these, and a failure in his hand is only a providence of God; no fear of criticism or legal consequences need disturb him or affect his nerve. With the general country practitioner it is different. He may be a thorough student, a skilled physician, a man equal or even superior in education, courage and common sense to

the great teachers and operators; he may be in every respect that highest product in medicine—a thorough, all-around practitioner, and there are thousands such—but this very fact puts him at a disadvantage as compared with the narrower specialist in the mere operative facility. He can not in the natural order of things command the experience or have at his hands the needed appliances and surroundings, and, while perfectly competent to judge and operate in a case of urgency where life depended on it, his own best judgment might be against any such rule as here discussed, so far as his own conduct was concerned. If this is true of the abler general practitioner, it is still more so of those less experienced and less able. Yet, if the dictum is to go out, backed by the authority of the great surgical authorities of the day, that operation is advisable or imperative in every case of appendicitis, inexperienced and untrained men as well as those better skilled will be compelled to operate.

Any such statement made by those, so to speak, in authority, should be made with reservation; as one gentleman said in the discussion, there should be no such words used in surgery as "never" and "every," and he was right. Each case is a law to itself, and all the conditions must be duly considered. While there may be hundreds of men in this country so qualified and situated that they could possibly safely adopt the rule to operate in every case, there are thousands who could not, and this may be said not at all to their discredit. Any such unqualified radical assertion as that every case calls for operation should not be made, much less sent out as the verdict of one of the highest surgical assemblies in the land. We are glad, therefore, to note the qualifying opinions there expressed. (See p. 1314.)

PRESIDENT MATHEWS' ADDRESS.

The presidential address, published in this issue of the JOURNAL calls for more than a passing notice. It is not for us to comment on some of the recommendations it contains, but others may well be noticed here. The points made as to the need of recognition of medical societies that can not obtain such under present rules, and as to a more thorough canvassing of the profession in the interest of the ASSOCIATION, are timely and well worth the consideration of its members and friends.

That the JOURNAL alone is worth more than the sum paid for membership, we trust is true, and it will be our endeavor to so increase its value that the fact will be even more self-evident, and that its title to rank as peer to any medical journal published anywhere will be beyond all question. To some extent the JOURNAL is in this respect in the hands of its contributors, but there is little fear of trouble from that quarter. The program of the ASSOCIATION this year would sufficiently indicate this, and there is no reason to look for deterioration hereafter. It is a matter for congratulation that it has reached a point of development where the ablest men in all specialties find it one of the very best mediums for the publication of their best work. Dr. MATHEWS' remarks on some of the living questions of modern medicine are well chosen and we trust have accomplished their purpose and maintained the traditions of the ASSOCIATION as a foremost worker in all matters of medical progress.

CHICAGO DEATHS FROM "CHRISTIAN SCIENCE."

One can hardly imagine a greater misfortune than for parents to have lost a child through their own misguided beliefs and then to be held criminally responsible for the same. This, however, is the position to which the belief in "Christian Science" brings some individuals. With loss of faith in cherished beliefs that ought naturally to follow such an event, the affliction itself and the self-accusation, comes the additional affliction of publicity, and criminal prosecution is also a near possibility. How far the law would demand exemplary punishment in such a case can not perhaps be said; it should err if possible on the side of mercy toward the unfortunate and already afflicted parents—but there is little ground for similar leniency toward the mercenary "healers" who mislead and exploit their credulity under a hypocritic religio-medical guise. The occurrence of two recent cases of deaths of children from diphtheria in Chicago, and the exposure of an entire school of children to the disease, by "Christian Science" foolery, are the latest facts of the kind. We would be glad never to have to mention "Christian Science" again; neither the name nor the thing itself is a pleasant matter of contemplation to anyone who has faith in the common sense of his fellows, but it is forever thrusting itself before the public in some unsavory and unsanitary way. Its victims have our sympathy if not always our respect, but their active deluders have neither. Recent events in more than one populous center have begun to teach the public that their performances are perilous not only to individuals but also to the general welfare of the community.

A SANITARY LAWSUIT.

According to the daily press, a peculiar suit has lately been instituted by a Boston physician, with a special purpose aside from the ostensible cause. The suit is to recover the price of an Angora kitten sold the doctor by a dealer, and for damages on account of risk and trouble incurred. The cat died very soon after its purchase and examination revealed the cause of death to be tuberculosis of acute type. The doctor held that his family had been unduly exposed to infection, and began the lawsuit mainly for the purpose of calling the attention of the public to the dangers to which they heedlessly and ignorantly expose themselves in the matter of domestic pets. Tuberculosis may in this way be very easily introduced into a family, and this may explain many cases of mysteriously originating disease. It is a serious matter, regarded in this light, to sell animals that may thus be the source of contagion. The comparatively recent local epidemics of "psittacosis," reported from France, and such cases

as are published by Dr. TUCKER WISE in a very recent issue of the London *Lancet* are strongly in point in this connection. If we are to have a crusade against tuberculosis, the domestic pets, and especially the exotic ones, will have to come under pretty strict supervision. Probably in the interest of sanitation, the less we have of the monkey and parrot, as well as cat business, the better.

CARCINOMA AND TUBERCULOSIS OF STOMACH.

The simultaneous development of carcinoma and tuberculosis is very rare in any locality. There are only three or four examples of this combination of morbid processes recorded as occurring in the stomach. CLAUDE[1] found at the post-mortem of a patient with tuberculosis of the lungs and intestines an irregular, soft tumor projecting from the posterior walls of the stomach near the pylorus. Surrounding its base ran a narrow ulcer, and the free surface of the mass showed that the mucous membrane had been destroyed; in the vicinity of the large tumor were three smaller polypoid outgrowths, but otherwise the remainder of the stomach seemed normal. Histologic examination of the smaller nodules showed a typic adenomatous structure and submucous tubercles with giant cells and tubercle bacilli. The large tumor was an adenocarcinoma; between the muscular coat and the overlying tumor were numerous caseous tuberculous foci extending into the carcinomatous tissue. Thus there had developed an adenocarcinoma which had become infected with tubercle bacilli, showing that this organism can thrive on a carcinomatous basis and overcome the tumor cells. When the great rarity of tuberculosis of the stomach is considered it would seem that carcinoma of the stomach really favors the development of gastric tuberculosis by diminishing the excretion of hydrochloric acid and disturbing the functions of the gastric glands.

AVOIDABLE RAILROAD ACCIDENTS.

The report of the coroner's juries investigating the recent wreck on the Reading Railroad, where twenty-nine lives were lost and fifty persons more or less maimed, strikes the medical reader with utter amazement. Had their verdicts been anything but the sworn conclusions of men who have personally investigated the matter they would have found few believers. This railroad system has been considered one of the important and well-managed roads of the eastern States, and yet we find these two juries reporting that they find the company censurable for not establishing a color test for such of their employes as are compelled to distinguish between colored lights and signals. It seems incredible that such a criticism could be seriously made of any railroad of our times. If it is true in addition, as these juries report, that the Reading has no modern system of communication between the signal towers and the central offices, that employes are not obliged to carry accurate timepieces, that trains are dispatched too close together, and finally, that although the trainmen on the night of the accident made some mistakes, the accident could not even then have occurred if the road maintained a proper method of signalling, then some of the high officials of the road should be tried for criminal negligence and manslaughter. The example of a president and manager of such a negligently operated railroad spending ten or twenty years in the penitentiary would be most salutary. Only the thorough airing of this matter in the courts can remove a blot from this road and its officers if these things be not true. If they are true, punishment should be prompt and certain.

[1] Compt. rend. de la Soc. de Biol., Jan. 28, 1899.

INSANITY IN CHINA.

It has been claimed that the Chinese were not especially liable to mental disorders, at least in their native country, where the existence of any very great number of insane has been denied. It seemed to be assumed that their particular type of non-progressive civilization, and the stereotyped habits and modes of thought, while not favoring the highest intellectual development, were equally unfavorable to tendencies toward pronounced mental disease. The fact, too, of the comparatively low value set on human life in China was thought to be a possible cause for the non-survival for any long period of helpless, demented individuals, who without care must quickly succumb, and the accumulation of insanity, that is one of our most serious social problems, has been thought, therefore, not to be one that troubled to any extent Chinese economists or statesmen. This last may be true, but the number of insane in China has evidently, according to Dr. KERR, an American medical missionary on the spot, been vastly underestimated. In an editorial note in the last number of the *American Journal of Insanity*, he is quoted as estimating the number of visible insane in China as so great that to adequately shelter them at least 300 institutions, with a capacity of 1000 each, would be required. This brings the ratio of insane to the general population up to a point not far, if any, below that of European states, and spoils one argument in favor of Chinese civilization and institutions. The pace of life may not be so fast under those conditions, but evidently it is too severe for many who have to try it.

EARLY DIAGNOSIS OF CHOLELITHIASIS.

It is a matter of common observation that biliary calculi are often found after death when they were unsuspected during life. In some instances the condition is unattended with clinic manifestations, and in others these are so vague in character as not to suggest their true origin. For the diagnosis of gallstones it has been thought necessary that there should be present attacks of hepatic colic, jaundice and the passage by the bowel of the concretions. It has, however, been shown that morbid conditions and manifestations exist independently of, and in the intervals between, attacks of colic.

In a considerable experience at Carlsbad, POLLATSCHECK (*Weiner Med. Woch.*, April 8, 1899, p. 702), has found that in many of the cases referred to him

as examples of cholelithiasis there have been present previously one or more attacks of hepatic colic. In a large proportion of these there was also jaundice, while the stools were pale, the urine contained biliary coloring matter, and occasionally concretions were found in the stools. In most cases further, there had long been intermittent symptoms of gastro-intestinal derangement. Examination disclosed, as a rule, enlargement of the liver and evidence of peritoneal irritation. The physical examination is facilitated by standing on the right side of the patient placed as nearly flat as possible, and depressing the fingers of the left hand gently from above downward toward the margin of the liver, and then placing the fingers of the right hand at an acute angle upon those of the left in such a way that the tips of the former project slightly beyond those of the latter. Then firm pressure is made with the right hand upon the released left. The enlargement of the liver following attacks of hepatic colic, is variable in degree and duration in direct proportion to the severity of the attacks.

When inflammatory conditions arise from the presence of gall-stones, attacks of boring or compressing pain in the right hypochondrium occur, particularly after the ingestion of fatty food, as if induced by expulsive contraction of the gall-bladder. When the biliary passages are inflamed or ulcerated the liver may not be enlarged, although its neighborhood is tender. In erethistic individuals there may be fever and chills, but these are usually associated with suppurative processes. Patients with gall-stones often suffer from feelings of faintness, while they appear to have a much greater tolerance for the Carlsbad waters than do ordinary dyspeptics and neuralgics.

COLEOTHRIX METHYSTES.

Rum is the characteristic strong drink; its name is commonly used by metonymy for the whole class. Its average alcoholic strength is about 70 to 75 per cent.; it would therefore be properly considered as only a moderately diluted alcohol, and consequently hostile or incompatible with any known form of animal or vegetable life. It has long been known, however, by dealers and connoisseurs in this line of beverages, that it is sometimes liable to become affected in such a way as to endanger its marketable value—to be subject to a condition that has received the name of "faultiness" in which when mixed with water it throws down a flocculent precipitate. The cause of this condition, hitherto unexplained, has been recently shown by a couple of English investigators (husband and wife in this case) at Oxford University, who discovered that the spoiling of the rum is due to a micrococcus, to which they have given the name that heads this note, derived from its two assumed peculiarities (κολεος a sheath, and μεθυστης, a drunkard). It lives in the rum, encapsulated in its gelatinous envelope, through which it absorbs the sugar it requires for its nourishment, and still prevents the noxious action of the spirit upon itself. The origin and other life history of the microbe are unknown, and it does not appear to be pathogenic to guinea-pigs. In short, it is apparently an enemy to rum alone as far as known—a sort of humble worker for temperance—and inasmuch as it imbibes only the nutritive sugar and, though surrounded by temptations, lets the noxious alcohol alone, its specific designation would appear to be a misnomer.

SURGICAL SHOCK.

It is a matter of wonder that surgical shock has received such scant consideration at the hands of investigators in the field of surgery. This fact is forcibly borne in on the medical reader by the recently published work of CRILE[1]. For the first time we have presented the accurate records of an extended and careful research into the cause of shock, conducted on the lines of experimental physiology. In a sense it might be said that the facts and conclusions in this essay are not all new, the chief addition to knowledge being the clear and unquestionable exposition of the mechanism of the production of shock, and as a consequence some very pertinent conclusions as to its prevention and treatment. It is of importance to surgeons to have it positively proved that, as a rule, the amount of shock is in direct proportion to the extent of excitable tissue injured and the time occupied in operation. Of inestimable importance is the new observation that the profound shock which results from manipulations about the base of the epiglottis and superior portion of the larynx, can be entirely prevented by previously painting the mucous membrane of this region with a weak solution of cocain, which completely blocks the afferent impulses from this area and prevents their reaching the respiratory center, whose failure is the distinctive feature of this shock. The terrible circulatory failure that follows manipulation of the various tissues in the splanchnic area was found to be due to enormous dilatation of the abdominal veins, which practically cuts off the supply of blood to the heart. The experimental evidence well bears out the earlier conclusions of many surgeons that, as a rule, respiration fails much earlier than the circulation in shock and in anesthesia. Also, it was found that after shock has occurred, the heart possesses infinitely more recuperative power than the respiration. In 103 cases of death in dogs while in shock, respiration failed first and most severely in ninety, while the heart alone failed in only four. The immediate cause of death in injury of the brain was found to be respiratory failure. Strychnin sulphate, artificial respiration, intravenous injection of normal saline solution, application of heat and depression of the head were found to be the best measures in the treatment of shock. Having at hand now the first really connected and well-studied record of minute observations on the cause of shock, it is certain that the surgeon will work with greater assurance, because of foreknowledge as to where and when and how this dreaded complication of the operating-table is likely to appear. No doubt other investigators will be stimulated to make further obser-

[1] George W. Crile: An Experimental Research into Experimental Shock—An Essay Awarded the Cartwright Prize for 1897. Philadelphia: J. B. Lippincott Co.

vation in the field, and we shall soon have filled in a breach in our knowledge which has been a reproach to surgery for some years.

Medical News.

DR. WM. OSLER has resigned the deanship of the Johns Hopkins Medical School.

THE LATE Mrs. Sarah M. Griswold has willed the Silver Cross Hospital, Joliet, Ill., $1,000.

DR. H. H. MUDD, St. Louis, has been elected dean of the medical department of Washington University.

COMMENCEMENT exercises of the medical department of the State University, Boulder, Colo., were held May 31.

DR. JOHN DEAN, St. Louis, has resigned the assistant superintendency of the City Hospital to go into private practice.

DR. H. L. NIETERT, superintendent of the City Hospital, St. Louis, gave a farewell dinner to the retiring internes May 31.

DR. WM. E. QUINE has withdrawn his resignation as dean of the faculty of the College of Physicians and Surgeons, Chicago.

IT IS officially announced that the plague has appeared on the "Ivory Coast," at Bassam, and vessels from that port are quarantined.

DR. E. KÜSTER, professor of surgery in the University of Marburg, has been elected a life representative of the University, in the Prussian Senate.

IN THE different parks of New York City, depots for the sale and free dispensing of sterilized milk during the summer months are to be established.

THE PARIS Academy of Medicine has been endowed with another prize, by a legacy from Lieut. Boggio, to be awarded for the best work on tuberculosis.

DR. HENRY B. STEHMAN, superintendent of the Presbyterian Hospital, Chicago, recently operated on for empyema of the lung, is reported convalescing.

THE NEW Free Hospital for the Destitute Sick, an extensive addition to St. Vincent's Hospital, New York City, was formally opened, with impressive ceremonies, on May 30.

GOVERNOR ROOSEVELT has found it impracticable to approve the bill, as passed by the New York legislature, providing for shorter hours for drug clerks. (See JOURNAL May 27, p. 1189.)

A NOVEL means of raising money was the Medical Dog Show recently held for the benefit of the London School of Medicine for Women. No dogs were admitted except those belonging to physicians or students or their families.

DR. JOS. W. HOLLAND, recently assistant superintendent at the University of Maryland Hospital, Baltimore, has been elected first assistant at Spring Grove Asylum (Maryland Hospital for Insane), succeeding Dr. Jos. Clement Clarke.

THE American Academy of Medicine, in session at Columbus, Ohio, June 5, elected the following officers president, G. H. Makuen, Philadelphia; secretary and treasurer, Charles MacIntyre, Easton, Pa.; assistant secretary, W. L. Pyle, Philadelphia.

DR. J. WILLIAM WHITE, professor of clinic surgery at the University of Pennsylvania, Philadelphia, has recently been appointed by President McKinley a member of the board of visitors of the Military Academy at West Point.

CHLOROFORM was recently administered in the street to a woman whose foot was crushed and caught between the wheel and platform of a street-car in Berlin. The car was raised with lifting-jacks and the foot released in the course of an hour.

THE TUBERCULOSIS congress finished its session at Berlin on May 27. Its meetings were full of interest, and the congress is regarded as having been a great success. America was well represented, and two Americans, Drs. Boyd and Nuttall, were appointed honorary presidents of the first section.

THE PLAGUE, after traveling over a large portion of China, has now found its way into Egypt. At Alexandria, on May 29, there were eight cases, with two deaths, while there were in Hongkong and Red Sea ports a total of 143 cases and 134 deaths in two weeks. Since March 4, in Hongkong 498 cases have occurred, with 436 deaths.

ASST ATTY.-GENERAL BOYD, Washington, D. C., has decided that in the bill reorganizing the army, Congress conferred the title of brigadier-general on Col. F. C. Ainsworth, M.D., personally, and did not intend that the title should go to any one who may hereafter be made chief of records and pensions in the war department.

ACCORDING to the *Berliner Tageblatt*, four young women attending the University of Halle have recently passed all examinations, receiving the *tentamen physicum*. All had completed their education at a Berlin college before entering the university. This is the first time in the history of German universities that women medical students have taken this examination.

THERE are over thirty physicians in the French legislature, and at a banquet offered them not long ago by the "Medical Syndicate of the Seine," they decided to hold meetings to discuss questions before the Senate affecting the profession. Expert testimony, accident insurance, the overcrowding of the profession, etc., have been discussed and much good will undoubtedly result.

AN INTERNATIONAL congress has recently closed at Rouen, according to the *Gaz. Méd. de Paris*, May 13, entirely devoted to the discussion of questions relating to hygiene of textile manufactories. Resolutions were adopted, appealing to architects and proprietors and all concerned, to adopt the improved methods of heating, cooling, ventilating and supplying moisture, which were approved by the congress.

BY THE bequest of Baroness Hirsch, a large dispensary and night shelter has been erected in a populous district in Paris. The buildings recently opened comprise a large refectory (70 places), night shelter for women and children (70 beds), a large dispensary for children, with special halls for throat troubles, whooping-cough, etc.; bathing rooms with sixty tubs and shower-baths, etc.

Association News.

AMERICAN MEDICAL ASSOCIATION.

Fiftieth Annual Meeting, held at Columbus, Ohio, June 6–9, 1899.

OFFICIAL MINUTES OF THE GENERAL SESSIONS.

JUNE 6—FIRST GENERAL SESSION.

The ASSOCIATION convened in the Grand Opera-House, and was called to order at 10 A.M. by Dr. Starling Loving of Columbus, chairman of the committee on arrangements.

The president invited ex-presidents and vice-presidents to occupy seats on the platform, and among those who responded were: Drs. N. S. Davis, George M. Sternberg, W. W. Keen, H. O. Marcy, Nicholas Senn, Augustus P. Clarke, Henry D. Holton.

Divine blessing was invoked by Rev. Washington Gladden.

His excellency, Asa S. Bushnell, Governor of Ohio, was then introduced by Dr. Starling Loving, and delivered the following

ADDRESS OF WELCOME.

We are told if you came to Columbus you would expect us to give you a "hot old time." I think you will not complain of the manner in which we have received you in that regard. Your welcome is as warm as the weather. I do not know how much warmer we shall make it for you before you leave, but we will endeavor to meet your expectations in every respect while you are in the capital city of Ohio.

The people of the State of Ohio, and especially those of our capital city, appreciate highly the honor conferred by this annual meeting of your great and important ASSOCIATION. It is another Ohio triumph, if I may call it such, and it is one which I assure you will not be soon forgotten. As a representative of the people of a commonwealth which has ever been in the advanced line of progress, not only in the medical profession, but in the other important affairs of mankind, I extend to you a most hearty and sincere welcome. Believe me, you could not have a more appreciative environment than you will find in this capital city of our State. Those of the laity with whom you will come in contact are fully mindful of the dignity and the importance of this conclave. In common with all other States of the Union, Ohio has produced men distinguished in the professions. Science has had some of the hardest working, the most devoted and enthusiastic disciples in Ohio, and the results of their labors, as shown before the world, have carried to us a distinction hardly inferior to that of any of the sister States. I do not say all this in the way of boasting, but simply to exhibit to you the character and attainments of the people among whom you are to sojourn for a few days. You will be sure, therefore, that our people will do what they can for you, although they may fall far short of their desire.

Standing before you as a man who has led a comparatively long and busy life, I have been in a position to know something of the changes that have been wrought by you in the medical profession, and it seems like a dream to me when I realize the vast improvements instituted by your great and noble profession for suffering and ailing humanity. A portion of my younger life was spent in a vocation which enabled me to come into the closest contact possible for a layman with your profession. In my time as a druggist, I was more or less familiar with the methods of treatment and the relations of medicines and remedies which were in vogue. My lines very early fell in other places, and for many years to a certain extent I somewhat lost sight of the doctors, although in my early business experience, to which I have adverted, I often heard the members of the medical profession called by a variety of uncomplimentary names which indicated a doubt as to the value of their services. I became indentified with another species of reaper and mower, and have been with them ever since. (Laughter.)

You have made wonderful strides in the treatment of the sick and the injured. What person who has experienced pain does not realize the inestimable benefit to mankind that came with the discovery of the first anesthetic of Wm. J. Morton and his co laborers. Who besides you can properly estimate the value of the great discoveries of Lister, Louis Pasteur, and the other great men who, year by year, have been adding to your knowledge which is so dear to men engaged in the saving of human life or in lessening the ills that flesh is heir to.

In the presence of such an assemblage as this, one should endeavor to pay tribute from the heart, and I can not express to you in suitable words my sense of appreciation and honor for your profession. It is a hard and arduous life at best, one of unselfish cares, of deep sympathies and many sorrows. Its trials are not well understood, nor are the victories gained rewarded as they should be. (Applause.) If you will pardon a personal reference, I think I may say with great truth—for one who occupies the chief executive place in a great State has an opportunity for obtaining good ideas of the work and the value of the labor of a physician—we have in the State of Ohio, as in other progressive States, institutions which are for the benefit of the afflicted class, that is, great hospitals where are gathered the insane, the epileptic, the feeble-minded youth and the deaf and blind. It has been my good fortune to see marvelous results wrought in many instances with the aid of the intelligence, skill and devotion to duty of those who administer for the State. I am sure all of you, in your individual capacities, will say that as good results are being accomplished by you. Doubtless, with hope, spirit, strength and skill at our command, we may be able to bring about conditions which will be to our credit. I regret that few of the great charitable and benevolent institutions of Ohio are open for your inspection. We believe that Ohio has taken a decided march forward in the matter of caring for and aiding the afflicted, and our hospitals and institutions are models of their kind. It has been the aim of this State to appropriate ample funds for the proper maintainance of these institutions. As an instance of the intent and purpose of our work I need but call your attention to a fine institution located in one of the southern counties of the State for the treatment and study of the epileptic and insane, which is proceeding under the most favorable auspices, and it is expected, through the work of those having matters in charge, that before long methods will be devised, if not discoveries made, which will gratify your profession.

Another example is that of the State assuming custodial charge of imbeciles. Ohio recently inaugurated this plan by purchasing a splendid tract of land, establishing the foundation for good work, by which it is hoped there will be provided a home for those who are morally, if not legally, objects for the State's perpetual care. The value of such an institution will readily be recognized by all, and particularly by you who are confronted daily with the evil effects of the neglect of such duty. We believe the future of all these institutions will be as good, if not better, than the past, and especially if removed as far as possible from politics. (Applause.) As you have doubtless noticed, the ingredients of politics and of medicine do not make a very homogeneous compound. (Laughter.) By the way, I arrived at a clearer conception of these matters about three years ago, when it devolved upon me to take a final step in a matter which has done much for the medical profession in Ohio. I refer to the appointment of a board for the examination and registration of medical practitioners. There were seven men to name, but 200 applicants mentioned by their friends. I found it hard to avoid politics, but I believe my efforts were successful, and I believe we have a board which is an honor to the profession and to the State. We do not claim everything for Ohio, but I think you must all admit that some good things have come out of Ohio. (Laughter.) We do not say that other States have not as able and conscientious boards of examination and registration as Ohio, but if any State has as good or a better board, I congratulate that State. (Applause.)

I have offered these remarks to bear testimony to our welcome and the appreciation in which you are held and to the honor which has been paid us by your coming. To say more would be to repeat, still I feel that we can not too many times assure you of the pleasure we have in welcoming you and wishing you a happy and profitable meeting. In the name and on behalf of the people of this State and city, I offer you a formal and yet a sincere and heartfelt greeting. May your proceedings be of the utmost benefit to all, and when you leave us, may it be impressed on you that we have not failed in doing that which we have aimed to do. I thank you for the honor accorded me and for appearing before you, and again desire to express my good will and esteem for you all. I do not forget my duty and the proprieties of the occasion. My duty is to welcome our distinguished guests, and the proprieties of the occasion are to make you happy. I hope you will all be happy during your stay in this city, and should you need me at any time, my telephone number is 437. (Loud applause.)

MAYOR'S ADDRESS OF WELCOME.

Hon. SAMUEL J. SWARTZ, mayor of Columbus, was introduced by Dr. Loving, and spoke as follows: I assure you I only speak the sentiments of all the citizens of our city when I say, you are welcome. You are welcome not only for your

individual and collective work, for your rank in science, but for the sake of your profession. We welcome you as ministers of healing—men who minister to the wants and distress of all men and of all nations, who follow in the war marches of the armies and face the deadly perils of the camp—men who comfort the fever-stricken soldiers of all ranks and conditions of society. (Applause.)

I do not intend to offer you the keys of the city. You have captured the capital and Columbus is yours. I promised the secretary of this ASSOCIATION that the police would be as gentle as lambs. In connection with the remarks of Governor Bushnell, if you were to consult the telephone directory and call up Governor Bushnell by the number he gave you, I think you would be mistaken, for I have grave suspicions that number belongs to the Ohio penitentiary. (Laughter.)

In looking over this audience I notice that you have brought your wives and daughters with you, and perhaps some of you have brought your sweethearts as well. We welcome them all and hope they will have a royal good time.

On behalf of all our citizens, I again extend to you a hearty welcome to this city. We hope your sessions will be pleasant and profitable, and that your sojourn among us will be full of happiness, and that you will return safely to your homes at the conclusion of your labors.

REPORT OF THE COMMITTEE OF ARRANGEMENTS.

THE PRESIDENT—"The next thing on the program is the report of the committee of arrangements, by Dr. Starling Loving, chairman."

Dr. Loving then mentioned the places of meeting of the various Sections, the entertainments, when and where they were to be held, the Section dinners, etc., all of which are printed in the official program.

At this juncture the first vice-president, Dr. W. W. Keen of Philadelphia took the chair, and the president, Dr. Joseph M. Mathews of Louisville, delivered his address. (See page 1273.)

At the conclusion of the president's address, Dr. H. O. Walker of Michigan arose and said: "I move, Mr. President, that the thanks of the ASSOCIATION be extended to the president for his admirable and instructive address, and that a committee of five be appointed to re consider the recommendations he has made and report back to the ASSOCIATION before the end of the meeting." Seconded.

THE FIRST VICE-PRESIDENT—"I would make the suggestion that the address be referred to the executive committee."

The suggestion was accepted by Dr. Walker, and the time for making the report to be Thursday morning. Carried.

REPORT OF CHAIRMAN OF RUSH MONUMENT COMMITTEE.

THE PRESIDENT—"The order is the report of the Rush Monument Fund, and in the absence of Dr. Gihon, the report will be read by Dr. Henry D. Holton of Vermont."

Dr. Holton then read the report as follows:

You may remember the enthusiasm which prevailed at the meeting of the ASSOCIATION at Philadelphia when the sum of $100,000 was fixed by common consent as the amount which should be contributed by the profession to erect a suitable memorial not alone of the great medical patriot of the Revolution, but of the part which the profession of medicine represented by him had had in the foundation of this great Republic, and as the expression of the patriotic sentiments and love of country of the medical men of the present day. You must also recollect how the delegates from State after State rose and pledged their several constituencies, each for its quota for this commendable project. You may further remember how, at the meeting at Denver, two States, New York and Colorado, redeemed that pledge, and a third, Pennsylvania, conditionally, and how, at my request, the permanent secretary was directed to communicate with the officers of the State medical societies, urging them to appoint without delay, representative members of the committee from their several States and Territories. I know that he promptly performed this duty; six State medical societies have appointed such representatives; $355.50 have been added to the moument fund, which, now, by increase of interest on the money invested, amounts to about $10,000 actually in the treasurer's hands. A Washington despatch reads: "the sum of $4200 was to-day (January 3) received at the office of the Layfayette Monument Commission from the Ohio State Commissioner, being the amount contributed by school children of the State of Ohio for the monument to Lafayette to be erected in the city of Paris in the year 1900. With contributions sent direct from various schools, this makes $5000"—one half the fruits of fifteen years' appeals to over one hundred thousand members of the medical profession in the United States for a monument at their own national capital, to their own countryman and professional confrère, whose services in the cause of national liberty were every whit as great.

Your business committee at Denver did not approve my request that the ASSOCIATION should defray the expense of attendance at the meeting of at least one of the officers of the Rush Monument Committee. As these officers have continued from year to year, it is evident that the action of the business committee virtually requires them to contribute annually from their own private means from $50 to $200, according to the distance traveled. In my own instance, by reason of my retirement from active duty in the navy by limitation of age, I am no longer eligible for official detail and would be subject to an outlay on account of the monument, which no other member of the ASSOCIATION is asked to make. After fifteen years of persistent, earnest effort, the time has come when I must admit that I can do no more. I reminded you at Philadelphia that of the eleven men originally interested in this project, all but two had died since its inception. In February of this year the secretary of the committee, George H. Rohé of Maryland, my friend of friends for many years, my always enthusiastic colleague and active coadjutor, also died; so lest death come unaware to me as it did to him, it is advisable that I transfer this duty to some younger, and I hope more successful, worker. It has been from the first a labor of love for me. From the beginning of my professional life—and this was almost half a century ago—the personality of Rush has been familiar to me, through my preceptor, Dr. Rush Van Dyke, whose father, Dr. Frederick A. Van Dyke, a courtly cultured gentleman of the highest type of the old-time physician, was himself a favored pupil of Benjamin Rush, whose name he bestowed on his son, for whom he selected the honorable career which his famous teacher and himself so worthily graced. I would that every physician of this day should appreciate his indebtedness to this great man, who, had he lived among us, would have been no less distinguished this physician, who, great when he lived, is still the greatest physician this country has ever produced—this typic manly doctor, whose faults were those which belong to every man of his impetuous, earnest, far seeing and far striving nature. To honor him with a monument is only to honor our profession, and it must be a monument in keeping with the dignity of this greatest of human vocations—hence, I felt you acted wisely at Philadelphia in determining $100,000 as the proper sum to be devoted to its erection.

The secretary of the navy has assigned an unequaled site for the structure, on the beautiful park fronting the U. S. Naval Museum of Hygiene, especially appropriate in that Rush was a pioneer in sanitary science, which men like the surgeon Gross and the physician Flint, as they laid down their lives, declare to be the highest aim and crowning glory of the science of medicine.

At the sluggish rate at which this fund has grown in my hands, it would be futile for me to hope to see it reach the proportions I think with you it should obtain, especially as I shall have left for an indefinite residence abroad when this report is presented. So, thanking you for your repeated expressions of approval of the little I have done, and of the much I have sought to do, and cordially wishing success to my successor in office, I hereby resign the trust with which you first honored me in 1884, and have repeatedly renewed the past fifteen years. Respectfully submitted,

[Signed] ALBERT L. GIHON, M.D.

REPORT OF TREASURER OF RUSH MONUMENT FUND.

Dr. HOLTON also presented this report:

Henry D. Holton, Treasurer, in account with Rush Monument Fund.

			DR.
1898.			
Aug.	13.	To cash from Geo. H. Rohé, former Treasurer	$ 8,373.63
"	13.	To Seymour W. Tullock, mortgage	1,000.00
"	13.	To certificate of cash on deposit Riggs National Bank,	261.39
		Total received from former Treasurer	$ 9,635.02
Sept.	2.	To cash from Ohio Medical Society	43.00
Oct.	14.	To cash from Vermont Medical Society	38.50
Nov.	19.	To cash from Medical Association Dist. of Columbia,	250.00
Dec.	1.	To cash, interest on Tacoma bonds	150.00
"	22.	To cash from Ohio Medical Society	3.00
1899.			
Jan.	16.	To cash from Wm. M. Edwards, Kalamazoo, Mich	5.00
"	16.	To cash from E. H. VanDusen, Kalamazoo, Mich.	5.00
"	16.	To cash from E. A. Christian, Pontiac, Mich	5.00
"	16.	To cash from N. D. Kean, Ishpeming, Mich	1.00
"	16.	To cash from C. C. Worden, Ishpeming, Mich.	1.00
"	16.	To cash from G. G. Barnett, Ishpeming, Mich	1.00
"	16.	To cash from J. H. Andrews, Ishpeming, Mich	1.00

"	16.	To cash from J. Vanderwater, Ishpeming, Mich	1.00
"	16.	To cash from T. A. Felch, Ishpeming, Mich	1.00
Feb.	16.	To cash, interest on Fort Worth stock	66.00
"	16.	To cash, interest on Tullock mortgage	50.00
June	1.	To cash, interest on Tacoma bonds	150.00
			$10,406.52

CR.

1898.			
Sept.	15.	By Tullock mortgage	$ 1,000.00
"	15.	By purchase of Tacoma bonds	6,000.00
"	15.	By purchase of Forth Worth Realty Co. preferred stock	66.00
"	15.	By paid interest on same	2,200.00
"	15.	By paid premiums and commissions	104.00
1899.			220.00
June	1.	By cash on hand	882.52
1899.			$10,406.52
June	1.	Securities and funds on hand at this date:	
		Tullock mortgage	$ 1,000.00
		Tacoma Water and Light bonds	6,000.00
		Preferred stock Fort Worth Realty Co	2,200.00
		Cash on hand	882.52
		Total fund	$10,082.52

On motion, both reports were received and the committee continued.

REPORT OF PERMANENT SECRETARY.

THE PRESIDENT—"The next order of business is the report of the secretary.

Secretary Wm. B. Atkinson presented the following report:

At the last meeting you directed me to open correspondence with the State medical societies asking each one to appoint a representative to the Rush Monument Committee. In several instances those not already represented on that committee notified me in due time of the appointment of a representative.

You also asked that each State medical society be requested to consider the propriety of making such changes in the time of meeting that their meetings should not conflict with those of this ASSOCIATION. It was found that but few so conflicted, and in each case it was found impossible to arrange for such change in time to prevent such interference this year. It was, however, agreed that every effort would be made to prevent any conflict unless in cases where such change demanded an amendment of the constitution. Here it was insisted that those who desired to attend our meeting could do so and for that time omit attendance on the State Society. I also took this opportunity to suggest to each State society the great importance of so amending the laws that our law could be more fully complied with and yet the local medical societies could be recognized, thus admitting many in certain States to the opportunity of becoming members by application. This suggestion was favorably received and I have been assured in several instances that an effort would be made to amend the law of the State society so as to recognize the many county or district medical societies which are now being carried on in full accordance with our laws but owing to the original organization of the State body have never been in any way connected with it. I hope in a short time that all the State medical societies will be so organized that the local societies may be in full relation to them and to this ASSOCIATION.

The resolutions adopted relative to the non reception of professors or graduates of colleges which are not carrying on the curriculum, etc., in accordance with the resolutions adopted by this body some years ago, were printed and forwarded to every medical college and journal in the United States. These were generally published in the journals, and many colleges replied, acknowledging the reception and agreement with the rules. Several, however, dissented from them, and I have received from the State medical societies of Alabama, Tennessee, Texas and Louisiana resolutions in opposition, which are herewith presented. Respectfully submitted,

[Signed] W. B. ATKINSON, M.D.

ASSOCIATION AND THE COLLEGES.

In connection with the secretary's report, Dr. Atkinson presented the resolutions of several State societies concerning the relation of the ASSOCIATION and the Association of American Medical Colleges. With the exception of the resolutions passed by the Texas State Medical Association below (received too late to appear in last week's JOURNAL), the above resolutions have been printed in full in the JOURNAL. (See May 6, pp. 1009, 1010; May 27, p. 1193.)

RESOLUTIONS OF TEXAS STATE MEDICAL ASSOCIATION.

To the Permanent Secretary.—We beg to state that while we sympathize with the spirit of the resolution, we are mindful that its immediate adoption, in accordance with its provisions, would operate to the disadvantage and injustice of a large number of honorable physicians in the United States We, therefore, respectfully suggest that a committee be appointed to memorialize the AMERICAN MEDICAL ASSOCIATION to the end that the ordinance in question be not carried into effect until 1902, to give time for the various medical schools to be able to comply with its exactions.

Respectfully submitted. J. F. Y. PAINE, Chairman.
E. P. BEATON, } Committee.
H. C. GHENT, }

The above resolution was adopted by the Texas State Medical Association at its recent meeting in San Antonio, April 27–30, 1899, responding to request for action upon enclosed resolution. H. A. WEST, M.D., Sec.

The following is the circular letter referred to by the secretary, sent according to instructions:

Dear Sir:—At the recent meeting of this association the following was unanimously adopted:

WHEREAS, The AMERICAN MEDICAL ASSOCIATION did, at Detroit, in 1892, unanimously resolve to demand of all medical colleges of the United States the adoption and observance of a standard of requirements of all candidates for the degree of doctor of medicine which should in no manner fall below the minimum standard of the Association of American Medical Colleges, and

WHEREAS, This demand was sent officially by the permanent secretary to the deans of every medical college in the United States, and to every medical journal in the United States, now, therefore, the AMERICAN MEDICAL ASSOCIATION gives notice that hereafter no professor or other teacher in, nor any graduate of, any medical college in the United States, which shall, after January 1, 1899, confer the degree of doctor of medicine or receive such degree on any conditions below the published standard of the Association of American Medical Colleges, shall be allowed to register as either delegate or permanent member of this ASSOCIATION.

Resolved, That the permanent secretary shall within thirty days after this meeting send a certified copy of these resolutions to the dean of each medical college in the United States, and to each medical journal in the United States.

Respectfully yours,

[Signed] WM. B. ATKINSON, M.D.

THE PRESIDENT—"What will you do with the secretary's report?"

Dr. BISHOP of Pennsylvania—"I move that the secretary's report and the resolutions accompanying it be referred to the executive committee." Seconded and carried.

REPORT OF TREASURER.

THE PRESIDENT—"The report of the treasurer is next in order.

THE treasurer, Dr. Henry P. Newman of Chicago then read his report as follows:

ANNUAL REPORT OF THE TREASURER OF THE AMERICAN MEDICAL ASSOCIATION FOR THE FISCAL YEAR COMMENCING JAN. 1, 1898, AND ENDING DEC. 31, 1898.

In presenting my annual report as treasurer of the AMERICAN MEDICAL ASSOCIATION, it is a source of gratification to be able to state that the membership receipts of this office during the past five years have steadily increased from year to year.

Notwithstanding the very large attendance at our centennial meeting in Philadelphia, and the fact that there was some apprehension as to the success of our following Denver meeting—owing to our late war, which was then in progress—still our sister city came nobly to the front with 500 new members, giving us an increase in membership receipts over any previous year.

At the close of the fiscal year of 1898 there were 8000 members of this ASSOCIATION, of whom only 92 were dropped for non-payment of dues. Thirteen hundred and twenty-five new members have been added, and 567 have been discontinued by reason of death or resignation.

The total receipts from members during the year were $33,760, and the cash on hand is $18,729.95, to which should be added the $3,000 in the sinking fund, making our total cash assets at the close of the fiscal year, Dec. 31, 1898, $21,729.95.

H. P. NEWMAN, M.D., in account with the AMERICAN MEDICAL ASSOCIATION

RECEIPTS.

1898.			
Jan.	1.	To cash, balance on hand	$14,092.85
June	10.	To cash, registration fees, Denver meeting	4,815.00
"	10.	To cash, Dr. J. W. Graham, Chairman of Committee of Arrangements, expenses of Denver meeting refunded	1,000.00
"	10.	To cash, Dr. W. A. Jayne, Sec. Reg. Com., expenses of registration at Denver meeting refunded	130.25

Aug.	24.	To cash, U. S. Treasurer, deposit on war bonds refunded		200.00
Nov.	14.	To cash, interest on building fund or investment of $3000, less exchange		179.85
Dec.	31.	To cash, Journal A. M. A., advertising, subscriptions, press work and sales		34,130.31
"	31.	To cash, membership dues for the year, not including registration fees of Denver meeting		28,945.00
		Total		$83,493.26

DISBURSEMENTS.

Jan.	19.	By cash, printing press for Journal office		$ 2,700.00
Feb.	19.	By cash, Dr. E. E. Montgomery, Trustee, expenses of attendance at Trustees' meeting at Chicago		62.50
"	19.	By cash, Dr. C. A. L. Reed, Trustee, expenses of attendance at Trustees' meeting at Chicago		34.00
"	19.	By cash, Dr. W. J. Herdman, expenses of Section on Neurology at Philadelphia meeting		18.00
"	19.	By cash, Dr. G. F. Hanson, expenses of Section on Materia Medica at Atlanta meeting		5.00
"	19.	By cash, Dr. D. B. Kyle, expenses of Section on Laryngology at Philadelphia meeting		15.24
March	22.	By cash, one year's rent of safety deposit box		10.00
April	28.	By cash, Dr. E. Cutter, expense of Section on Dietetics at Philadelphia meeting		12.00
"	29.	By cash, Dr. J. B. Hamilton, Editor, transfer of membership fees		20.00
June	10.	By cash, Dr. A. Garcelon, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		199.00
"	10.	By cash, Dr. I. N. Love, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		106.50
"	10.	By cash, Dr Joseph T. Priestley, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		92.00
"	10.	By cash, Dr. J. M. Mathews, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		103.00
"	10.	By cash, Dr. Joseph Eastman, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		95.00
"	10.	By cash, Dr. G. C. Savage, Trustee, expenses of attendance at Trustees' meeting at Chicago and annual meeting at Denver		90.00
"	10.	By cash, Dr. J. B. Hamilton, Editor, expenses of attendance at annual meeting in Denver		63.00
"	10.	By cash, Dr. H. P. Newman, Treasurer, expenses of attendance at annual meeting in Denver		87.00
"	10.	By cash, Dr. W. P. Munn, Chairman Registration Com., expenses of registration at Denver		269.25
"	10.	By cash, Dr. W. P. Munn, expenses collecting registration fees prior to Denver meeting		20.75
"	10.	By cash, Dr. J. W. Graham, Chairman of Committee of Arrangements, expenses of Denver meeting		1,000.00
"	10.	By cash, Ira J. Williams, stenographic report of Section on Neurology, Denver meeting		150.00
"	28.	By cash, Dr. H. P. Newman, half-yearly honorarium to June 1, 1898		500.00
July	9.	By cash, membership fees refunded		15.00
"	12.	By cash, U. S. Treasurer, deposit of $10,000 war bonds		200.00
"	15.	By cash, Dr. U. O. B. Wingate, Chairman of Committee of Public Health, expenses, including trip to Washington		481.26
"	15.	By cash, premium on bond of Treasurer		100.00
"	29.	By cash, H. O. Reik, stenographic report of Section on Ophthalmology, Denver meeting		150.00
"	29.	By cash, G. E. Malsbary, stenographic report of Section on Diseases of Children, Denver meeting		120.00
"	29.	By cash, Wm. Whitford, stenographic report of Section on Obstetrics and Diseases of Women, Denver meeting		140.00
"	29.	By cash, E. F. Smith, stenographic report of Section on Practice of Medicine, Denver meeting		150.00
Aug.	9.	By cash, Dr. W. B. Atkinson, Secretary, salary and expenses at Denver meeting		484.20
"	29.	By cash, sundries and supplies for Treasurer's office		52.80
Sept.	20.	By cash, I. J. Williams, stenographic report of Section on Surgery, Denver meeting		160.00
Dec.	31.	By cash, bank expenses and collection fees of drafts		38.60
"	31.	By cash, Dr. H. P. Newman, Treasurer, half-yearly honorarium to Dec. 1, 1898		500.00
"	31.	By cash, postage of Treasurer's office for the year		270.00
"	31.	By cash, Dr. R. F. Stone, expenses in reference to badge adopted at Denver meeting		68.90
"	31.	By cash, requisition paid to Journal expense account		22,100.00
"	31.	By cash, total Journal expense account	$56,230.31	
		Less cash requisition	22,100.00	
				34,130.31
"	31.	By cash, balance on hand		18,729.95
		Total		$83,493.26

Respectfully submitted, HENRY P. NEWMAN, M.D., Treasurer.

THE PRESIDENT—"What disposition will you make of this report?"

Dr. E. FLETCHER INGALS of Chicago moved that the report of the treasurer be received and referred to the board of trustees. Seconded and carried.

RESOLUTIONS CONCERNING TRAINED NURSES.

Under the head of miscellaneous business the following resolutions were offered by a delegation of the Philadelphia County Medical Society, and referred to the executive committee:

Resolved, That the AMERICAN MEDICAL ASSOCIATION cordially endorses the general plan of an organization as set forth in the amended bill supported by the Associated Alumnæ of Trained Nurses, known as Senate Bill No. 5353, and respectfully urges upon the attention of Congress, of the President, and of the surgeon-general of the army the great need and usefulness of such a systematized and competent department of trained women nurses as a permanent branch of the military service.

[Signed] Delegation of the Philadelphia Co. Med. Society.
JAY F. SCHAMBERG, M.D., Sec.

[Fifteenth Congress, 3rd Session.]

In the Senate of the United States, Jan. 25, 1899, Mr. Burroughs introduced the following bill, which was read twice and referred to the committee on military affairs, Jan. 30, 1899; ordered reprinted.

A BILL TO PROVIDE FOR THE EMPLOYMENT OF WOMEN NURSES IN MILITARY HOSPITALS OF THE ARMY.

Be it Enacted by the Senate and House of Representatives of the United States of America in Congress Assembled:

SECTION 1.—That from and after the passage of this act women nurses in the proportion of not less than .5 of 1 per cent. of the number of men in the United States Army shall be employed in military hospitals and shall constitute the Women's Nursing Service of the Army.

SEC. 2.—That there shall be a commission known as the nursing service commission, of five women appointed by the President, three of whom shall be nurses, graduates of a general hospital training school, giving a course of instruction lasting not less than two years, and which shall serve as an examining board and present an eligible list from which the surgeon general shall select and appoint nurses, and that this commission shall, subject to the provisions of this act, have general charge of the nursing service.

SEC. 3.—That there shall be a superintendent of women nurses in the army, who shall be a woman graduated from a general hospital training school for nurses having a course of instruction lasting not less than two years, and who shall be appointed by the President for a term of seven years, and confirmed by the Senate from candidates nominated by the commission. The superintendent shall be subject to the orders of the surgeon general.

SEC. 4.—That the nurses in the service shall be divided into an assistant superintendent, chief of nurses, head nurses and assistant nurses, all of whom shall be graduates of general hospital training schools having courses of instruction lasting not less than two years, and shall present credentials and pass an examination to the satisfaction of the commission, and give three months' probationary service in any army preparatory school. Each chief of nurses shall be subject to the orders of, and responsible to, the surgeon in charge of the hospital for the nursing care of patients. Any nurse may be suspended by the chief of nurses, or by the surgeon in charge of the hospital, through the chief of nurses, for incompetency or misconduct, and may be discharged by the surgeon general and the superintendent of nurses.

SEC. 5.—That all further rules and regulations regarding admission to, and conduct of, the nursing service shall be formulated by the superintendent of nurses, subject to the approval of the commission. Ward masters and hospital corps men, when detailed for service in hospital wards, shall be subject to these rules and regulations.

SEC. 6.—That the salary of each woman member of the commission shall be $6 per day when in actual service. The salary of the superintendent of nurses shall be $3,000 per annum. She shall be provided with suitable office facilities and necessary clerks for the transaction of business. The salary of the assistant superintendent shall be $2,000 per annum. The salary of chiefs of nurses shall be $85 per month. The salary of head nurses shall be $50 per month. The salary of assistant nurses shall be $40 per month. The salary of probationers in army preparatory schools shall be $30 per month. *Provided*, That in addition to the salaries above provided each woman member of the commission, the superintendent of nurses, and each nurse in the woman's nursing service shall be entitled to transportation and necessary expenses while traveling on public business. And *provided* further, That the nurses herein provided for except the superintendent of nurses and the assistant superintendent of nurses shall be entitled to subsistence, uniforms, laundry, medical attendance, nursing and medicines during illness.

SEC. 7.—That the number of nurses necessary for the immediate establishment of the woman's nursing service may, upon the passage of this act, be appointed by the surgeon-general without serving a probationary term.

RESOLUTIONS OF MEDICAL ASSOCIATION OF GEORGIA.

The secretary read the following resolutions from the Medical Association of Georgia, and moved that they be referred to the executive committee. Carried.

WHEREAS, The position of the surgeon-general of the United States army involves great and grave responsibility, the direction of vast interests, the highest order of professional skill and learning and executive ability, and

WHEREAS, The number of officers and soldiers under the direction of the surgeon-general in an army, organized as is the army of the United States, is greater than the command of a division commander, be it

Resolved, By the Medical Association of Georgia, that it is the sense of this body that the surgeon general of the army should have the rank, pay and allowance of a major general, and

Resolved, That the Medical Association of Georgia request all the medical societies of the United States to join in this appeal, and

Resolved, By the Medical Association of Georgia, That copies of these resolutions be transmitted to the President of the United States, the honorable secretary of war and our senators and representatives in Congress, with the request that all co-operate in attaining the end sought; and, further, that copies be also sent to the AMERICAN MEDICAL ASSOCIATION, and all other medical associations in the United States, with the request that they join in this memorial to Congress, and urge prompt action upon this subject by our national legislative authorities.

I hereby certify that the above is a true copy of preamble and resolutions passed at the fiftieth annual meeting of the Medical Association of Georgia, held at Macon, Ga., April 19-21, 1899. [Signed] R. H. TAYLOR, M.D., Sec.

AMENDMENTS TO CONSTITUTION.

Dr. L. B. TUCKERMAN of Ohio offered the following, and as they were amendments to the constitution they were laid over for one year.

The committee on legislation recommends the following amendments to the constitution and by-laws:

Section 3, Standing Committees.—The committee on legislation shall consist of three members: one of whom shall be a resident of Washington, one of Baltimore and one of Philadelphia. It shall be the duty of this committee to represent before Congress the wishes of this ASSOCIATION, regarding pending medical and sanitary legislation. This committee shall also invite to an annual conference to be held at Washington, one delegate each from the army medical service, the navy medical service, the marine hospital service and from each State society of legally qualified practitioners of medicine; such conference to consider questions of national medical and sanitary legislation and report to their representative bodies for action.

In By-Laws, Section 3, Standing Committees, insert after "board of trustees" the words, "committee on legislation," and after the duty of "boards of trustees" the following clause: "The committee on legislation shall report annually to this ASSOCIATION its action during the previous year and shall recommend to the ASSOCIATION such action regarding pending legislation as it shall deem proper.

"L. B. TUCKERMAN, M.D., chairman.
"F. A. LARUE, M.D., secretary."

Under this head the secretary read the following amendment, offered by Dr. W. L. Wills of California:

Constitution, Art. 4, Officers. Amend to read: "The following officers, namely, president, four vice presidents, treasurer, librarian, secretary, assistant secretary, and chairman of committee of arrangements, shall be nominated by a special committee of one member from each State represented at the meeting, and shall be elected annually by the vote on a joint ticket, and shall hold office until their successors are elected."

Dr. T. J. HAPPEL of Tennessee—"I move that action on this amendment be deferred until to-morrow, as the board of trustees in their report have the subject matter of that amendment under consideration in connection with the resolution offered last year by Dr. Wm. Bailey of Kentucky." Seconded and carried.

RESOLUTIONS ON "INDEX MEDICUS."

Dr. GEORGE M. GOULD of Philadelphia, presented the following resolutions, which were referred to the executive committee:

WHEREAS, The suspension of the publication of the *Index Medicus* is a deplorable event, which will result in greatly increased labor on the part of medical men in all literary work, and will seriously hinder the progress of medical science, practically as well as literally, be it therefore

Resolved, That the executive committee of the AMERICAN MEDICAL ASSOCIATION appoint a committee of three members of the ASSOCIATION to take general charge of the publication of the periodical, perfect plans for the same, and engage the services of an editor and of such editorial assistants as may be required, etc., to choose a publisher and make contracts with him for the printing, distribution, etc., of the work, all in such a manner that it shall continue the high standard of accuracy and bibliographic usefulness so well established by the previous editors; and,

Resolved, That the treasurer of the ASSOCIATION be instructed to pay all bills endorsed by said committee in payment of the necessary expenses of such editing and publication, provided that these do not exceed an annual outlay of over $3000.

RESOLUTIONS CONCERNING OPTICIANS.

Dr. L. J. LAUTENBACH of Pennsylvania presented the following resolution, which was referred to a special committee of three or five, at the discretion of the president, to be appointed and presented in regular order Wednesday morning.

Resolved, That it is the opinion of the AMERICAN MEDICAL ASSOCIATION that opticians are not qualified by their training, nor are they legally qualified, to perform the work of the oculist, and they should not be the consultants of regular physicians. Further, it is

Resolved, That all physicians are requested to call their brother physicians in consultation, thus discountenancing the growing pretences and assurances of the optician and his brother, the graduate optician, or, as he is beginning now to call himself, the "ophthalmotrician."

RESOLUTION ON DEPARTMENT OF PUBLIC HEALTH.

Resolved, That the AMERICAN MEDICAL ASSOCIATION recommend the creation of a national department of public health with a cabinet minister at its head. [Signed]
PHILADELPHIA CO. MED. ASS'N DELEGATION.

This resolution was referred to the executive committee.

On motion, the ASSOCIATION adjourned until Wednesday morning, 11 o'clock.

JUNE 7.—SECOND GENERAL SESSION.

The ASSOCIATION was called to order in the Grand Opera-House at 11 A.M., with President JOSEPH M. MATHEWS of Louisville, Ky., in the chair.

Dr. STARLING LOVING of Columbus made an announcement of a memorial and floral decoration at the Confederate cemetery at Camp Chase.

Dr. WM. B. ATKINSON, permanent secretary, then read the minutes of the previous general session.

Dr. L. DUNCAN BULKLEY, New York City, arose to correct the minutes, stating that the resolution offered by Dr. George M. Gould of Philadelphia, in regard to the publication of the *Index Medicus*, was referred to the board of trustees of the ASSOCIATION, instead of to the executive committee. The permanent secretary was ordered to make the correction as noted.

REPORT OF COMMITTEE ON MEDICAL LEGISLATION.

Dr. JOSEPH M. MATHEWS, president—"We will now listen to the report of the committee on medical legislation."

Dr. L. B. TUCKERMAN, Cleveland, Ohio, chairman of the committee, presented the report as follows:

WHEREAS, This ASSOCIATION has repeatedly taken action on matters of medical and sanitary legislation pending before Congress, and

WHEREAS, there is no permanent committee to which is assigned the duty of representing us before the committee of Congress and presenting to such committees our actions and the reasons therefor,

Resolved, That the nominating committee appoint a special committee on legislation to consist of three members, residing, one in Washington, one in Philadelphia, and one in Baltimore, to whom shall be assigned the duty of representing this ASSOCIATION before the committees of Congress; and that the expenses of this committee be borne by the ASSOCIATION; and,

WHEREAS, there exists at present no means of regularly securing concert of action between the AMERICAN MEDICAL ASSOCIATION and the various organizations of legally qualified practitioners of medicine regarding medical and sanitary questions coming before Congress for legislation.

Resolved, That the special committee on legislation be authorized to invite, in the name of the AMERICAN MEDICAL ASSOCIATION, the army medical service, the navy medical service, the marine-hospital service, and each State society of legally qualified practitioners of medicine, to send one delegate each to a conference to be held at Washington, D. C., at such time as the committee may determine; such conference to consider the medical and sanitary legislation now pending, and the members to report to their respective societies such action as in their judgment ought to be taken.

Respectfully submitted,

L. B. TUCKERMAN, M.D., chairman.
F. A. LARUE, M.D., secretary.

Dr. I. N. LOVE of St. Louis moved that the report and resolution be referred to the executive committee.

REPORT OF EXECUTIVE COMMITTEE.

Dr. L. DUNCAN BULKLEY of New York presented this report as follows:

The executive committee respectfully reports that with thirty members present they have considered most of the subjects referred to them by the ASSOCIATION and report as follows:

The resolution offered by the Philadelphia County Medical Society, in regard to the organization of a national department of public health with a cabinet minister at its head, is recommended for adoption by the ASSOCIATION, with the further recommendation that it be referred to the committee on public health to further formulate and further this project.

Dr. BISHOP of Philadelphia moved that the recommendation be adopted. It was adopted.

Dr. H. S. DRAYTON, New York City, at this point introduced a resolution bearing on this subject, which was referred to the executive committee.

Resolved, That the board of trustees be and hereby are authorized and requested to set aside out of the funds in the treasury not otherwise appropriated, the sum of $500 in addition to that which is already appropriated for the purpose, for the use of the special committee on a department of public health. [Signed] H. S. DRAYTON, M.D.

MEDICAL CORPS OF ARMY AND NAVY.

The resolutions of the Philadelphia County Medical Society, in regard to the medical corps of the army and navy, is recommended for adoption, with the change that Congress be directly appealed to, and that the president of the ASSOCIATION appoint a committee of twenty-five to memorialize Congress on the subject.

It was moved and seconded that the recommendation of the committee be adopted.

Dr. BISHOP of Philadelphia moved, in amendment, that the committee be appointed from each State and Territory where there were medical societies, and also one from the army, navy and marine-hospital service. The amendment was seconded, accepted and carried.

The resolutions, as proposed by the above society, are as follows:

WHEREAS, The morbidity and mortality statistics of the late war served to call to the attention of physicians of the United States the weighty and enlarging problem of the care of soldiers and sailors in peace and during campaigns, under widely varying conditions of climate and environment, now and in many respects presenting themselves for the first time; therefore, be it

Resolved and recommended by the AMERICAN MEDICAL ASSOCIATION:

1. That the medical corps of the army and navy be enlarged to meet properly all demands that may be made upon them.
2. That transportation of medical supplies be under the control of the medical department.
3. That a corps of sanitary inspectors be created, whose duty it shall be to examine into the sanitary condition of camps and bodies of troops in transit, and advise in relation thereto.
4. That the government establish permanent camp sites, the selection to be subject to the surgeon general, for use in the mobilization of large masses of troops.
5. That a professor of military hygiene be appointed at West Point to instruct the cadets in the principles of sanitation.
6. That the medical officers of the national guard be subjected to rigid examination both for admission to the service and for promotion.

That the surgeon-general of the army and navy in time of peace and war be empowered to call into requisition the services of skilled specialists.

8. That the President of the United States be respectfully urged to recommend to Congress the appointment of an army medical commission, to be composed of physicians and sanitarians to be taken from civil and military life, including the surgeons general of the army and navy, whose duty it shall be to prepare a report containing a detailed plan of a modern system to govern the medical departments of the army and navy in peace and war. Be it furthermore

Resolved, That a committee be appointed by the president of the AMERICAN MEDICAL ASSOCIATION to wait upon and present these resolutions to the President of the United States for his favorable consideration.

RANK OF SURGEON GENERAL IN THE ARMY.

The resolution offered by the Medical Association of Georgia, in regard to raising the rank of the surgeon-general of the army to that of a major-general, was recommended for adoption, and on motion, was adopted.

EMPLOYMENT OF WOMEN NURSES.

The bill to provide for the employment of women nurses in military hospitals of the army, presented by Dr. Gould, was approved by the executive committee. Dr. Gould appeared before the committee and explained its features, and said that it had been endorsed by all the leading physicians and nurses and others, and the committee recommended that the ASSOCIATION endorse the plan. On motion, the recommendation was adopted.

ASSOCIATION AND THE COLLEGES.

The communications from Tennessee, Louisiana, Alabama and Texas medical associations (see JOURNAL, May 6, p. 1009; May 27, p. 1193), in regard to the action taken by the ASSOCIATION last year, on the motion of Dr. Dudley S. Reynolds of Louisville, in regard to the limitation of membership to those who conformed to the requirements of the Association of the American Medical Colleges (see JOURNAL, xxxi, p. 83), were fully considered in connection with the resolution referred to. Dr. Reynolds and Dr. Savage, by invitation, appeared before the committee and explained the position of their association. After free discussion it was decided that in the opinion of the committee the action taken last year was unconstitutional, and therefore ineffective, and the entire matter was referred to the judicial council for opinion and decision. On motion, the report was so referred.

Last year the Section on Materia Medica, Pharmacy and Therapeutics introduced a resolution which was referred to the executive committe and not reported on. The committee placed the matter in the hands of a subcommittee to investigate the matter during the year and to report at this meeting. The committee now report that they endorse the preamble and resolution and recommend that a copy of the report be sent to the Decennial Pharmacopeial Convention for 1900. On motion the recommendation of the committee was adopted.

There were one or two other matters referred to your committee. The report of the secretary was not considered by your committee for lack of time, and the president's address is under consideration by several special committees which will report this afternoon, and a full report will be given to-morrow morning when the full committee shall have considered the recommendations.

NOMINATING COMMITTEE.

Dr. W. B. ATKINSON, the permanent secretary, announced the nominating committee as follows: Arizona, W. Duffield, Alabama, H. A. Moody; Arkansas, T. E. Holland; California; H. Bert Ellis; Colorado, T. H. Hawkins; Connecticut, T. D. Crothers; Delaware, ———; District of Columbia, H. L. E. Johnson; Florida, John B. Maloney; Georgia, W. F. Westmoreland; Illinois, T. W. Miller; Indiana, M. F. Porter; Indian Territory, ———; Iowa, C. M. Hobby; Kansas, James A. Lane; Kentucky, J. N. McCormack; Louisiana, ———; Maine, C. E. Norton; Massachusetts, A. P. Clarke; Maryland, R. Winston; Michigan, L. Connor; Minnesota, ———; Mississippi, J. J. Bethea; Missouri, J. D. Griffith; Montana, T. J.

Murray; Nebraska, A. D. Wilkinson; Nevada, ———; New Jersey, P. Marvel; New Hampshire, A. P. Richardson; New Mexico, ———; New York, E. E. Harris; North Dakota, ———; North Carolina, J. A. Burroughs; Ohio, N. M. Coleman; Oregon, A. W. Moore; Pennsylvania, H. M. Fenton; Rhode Island, ———; South Carolina, ———; South Dakota, ———; Tennessee, G. C. Savage; Texas, H. L. McNew; Utah, H. D. Niles; Vermont, E. R. Campbell; Virginia, George B. Johnston; Washington, W. C. Cox; West Virginia, S. L. Jepson; Wisconsin, D. J. Hayes; U. S. Army, Major Davis; U. S. Navy, J. R. Tryon; U. S. Marine-Hospital Service, P. H. Bailhache; Wyoming, R. Harvey Reed.

ORATION ON SURGERY.

Dr. F. W. McRAE, Atlanta, Ga., then delivered the address on surgery, which will appear in the JOURNAL.

Dr. W. H. DALY, Pittsburg, at the conclusion of Dr. McRae's address, moved that a vote of thanks be tendered to Dr. McRae for his very able and instructive address in surgery. The motion was seconded and carried.

ORATION ON STATE MEDICINE.

Dr. DANIEL R. BROWER, Chicago, delivered the oration on state medicine, which was profusely illustrated by stereopticon views. (See p. 1281.)

On motion, a vote of thanks was extended to Dr. Brower for his interesting and unique oration.

THE PRESIDENT—"The next item is the report of the board of trustees."

Dr. T. J. HAPPEL of Trenton, Tenn., advanced to the platform to read the report, when Dr. D. W. Graham of Chicago moved that inasmuch as the attendance was very small and the report was an important one, it be deferred until Thursday morning, to the first item of business. The motion was carried.

THE PRESIDENT—"There is a report of the special committee on a department of public health, to be read. Will you make the same disposition of it?"

On motion, the reading of this report was also deferred until Thursday morning, to be read after the report of the board of trustees.

On motion, the ASSOCIATION then adjourned until Thursday morning, June 8, at 11 o'clock.

JUNE 8.—THIRD GENERAL SESSION.

The ASSOCIATION was called to order at 11 A.M. by the president. The secretary read the minutes of the previous general session, and there being no objection, they were approved as read.

THE PRESIDENT—"The report of the board of trustees is now in order."

Dr. T. J. HAPPEL of Tennessee, presented the following report of the board of trustees:

REPORT OF THE BOARD OF TRUSTEES.

The board of trustees would respectfully present the following report for the year ending Dec. 31, 1898.

RECEIPTS.

Jan. 1, 1898. Cash in Journal office	$ 1,494.90
Jan. 1, 1898. In hands of Treasurer	14,022.85
Subscription and membership fees	39,771.20
Advertising	23,629.71
Sales	3,162.91
Interest	179.85
	$82,331.42

EXPENSES—JOURNAL.

Paper	$11,933.13
Labor	16,764.66
Salaries	8,265.06
Editorial	5,378.31
Postage	4,284.31
Commissions	1,569.94
Rent	1,500.00
Miscellaneous expenses	1,212.72
Clippings	210.87
Hauling	202.55
Electric power	428.10
Telephone	175.00
Electrotypes	582.82
Petty cash expense	303.09
Stationery	81.83
Gas	87.76
Copyrights	25.50
Oil and benzin	30.70
Ink	854.54
Reporting	686.87
Type	487.70
Grinding	28.00
Bindery supplies	96.10
Expressage	32.72
Toilet supplies	17.50
Telegrams	23.65
Folder supplies	4.30
Press supplies	107.83
Binding	126.65
New press	2,700.00
	$58,202.21

EXPENSES—TREASURER.

Meetings, etc	$1,520.29
Treasurer's bond	100.00
Com. Pub. Health	431.26
Secretary's salary and expenses	484.20
Trustees' expenses	932.00
Treasurer's salary	1,000.00
	$4,467.75
	$62,669.96
Balance { Cash in Journal office $ 931.51 / In Treasurer's hands 18,729.95	
	$19,661.46
	$82,331.42

Ten thousand dollars of this surplus has been placed in the sinking fund and invested in bonds, making a total of $13,000 thus invested. As will be noticed by the report, a new printing press has been secured during the year, at an expense of $2700.

The growth of the JOURNAL has gradually increased—thus the issues for the month of January, 1898, were: January 1, 9600; January 8, 9700; January 15, 9700; January 22, 9700; January 29, 9700; but were 13,000 for each week in December, 1898. The weekly average for the year was 11,270.

For the last three months of the year the management was greatly embarrassed by the sickness and death of the late editor, Dr. John B. Hamilton. Under his personal supervision the JOURNAL had increased to nearly three times its original subscription, and had gradually obtained a well-equipped plant and a large reserve fund, but more than all, a recognized position among the reputable journals of the country.

On Jan. 1, 1899, shortly after the announcement of the death of Dr. Hamilton, a called meeting of the board of trustees was held, at which it was resolved to continue the conduct of the JOURNAL business under the direction of the resident trustee, Dr. Truman W. Miller, who had very generously, at the sacrifice of his own interests, assumed the management, upon the demise of the editor. At the direction of the board he had the accounts of the JOURNAL office and the treasurer examined by an expert accountant, who pronounced them correct. At the annual meeting of the board, February 17 last, after a careful canvass of the available editorial material, Dr. George H. Simmons of Lincoln, Neb., was chosen editor for one year, at a salary of $5000, with the stipulation that he should move to Chicago and devote his whole time to the work of the JOURNAL. Your board congratulates itself that the wisdom of its selection of editor has been efficiently demonstrated by the subsequent progress of the JOURNAL. The changes that have been made render it more valuable to its patrons, and justify the hope of the board that it shall become the representative medical journal of the world. Other progressive features are under contemplation. A better grade of white paper will be used in the next volume, and the board has authorized the purchase of two Mergenthaler linotype machines, at an expense of $6700, which will insure the use of new type for every issue.

The board would recommend that article v, of the by-laws, be amended by substituting the words, "one year," for the words, "three successive years," in second paragraph of section 5, as it is not good business to permit any member to become so indebted to the ASSOCIATION that the payment of his dues will be a burden, nor should we furnish the JOURNAL three years for nothing, as we are now obliged to do.

Now in conclusion, the board of trustees would report further upon the resolution of Dr. Bailey, of Louisville, Ky., offered last year at Denver, referring to the election of a grand secretary for the ASSOCIATION, which resolution was referred to the trustees, inasmuch as it involved the expenditure of money. We have carefully considered this question from its various standpoints, keeping always in view the interests of the ASSOCIATION, and not of any one individual. We are satisfied that a radical change is needed in the management of the secretary's office. The fact that there are on hand no written minutes of the various meetings of this ASSOCIATION properly signed by the secretary, and the adoption of these duly attested by the signature of the president; and the further fact that the only minutes presented for adoption by this ASSOCIATION are in the form of notes, excerpts from newspapers, stenographic reports, read from various scraps of paper in such a form that they can not be signed by the president, so as to

make them valid; and the further fact that, in spite of adverse critcisms, this state of facts has continued for years, your committee has unanimously agreed to report, recommending what we think a proper change in this matter. We offer the following substitute for Dr. Wills' amendment offered last year at Denver, Colo.: Amend article iv of the constitution, by substitution for paragraph one and two of said article, the following: "The officers of the ASSOCIATION shall be a president, four vice-presidents, a secretary and an assistant secretary, a treasurer and a librarian. All of them except the secretary shall be nominated by a special committee of one member from each State represented at the meeting, and shall be elected by vote on a general ticket."

Each officer except the secretary shall hold office for one year and until his successor is elected. The editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION shall be the secretary of this ASSOCIATION and shall serve as such without additional compensation.

We further suggest that the word "permanent" preceding the word "secretary" in other places in said Art. iv, or elsewhere in the constitution or by-laws be stricken out.

We would state that we recommend this action not from any hostile feelings toward our present secretary, but for the reasons already presented and the following in addition—

If the editor of the JOURNAL is made your secretary, all the papers of the meetings will go at once into his hands, and he becomes responsible for them. As it is, they may not reach the editor's hands for more than a month, as was evidenced by our Denver meeting.

The minutes will be written out in proper form each day and presented for adoption by the ASSOCIATION, and then for the signature of the president in the presence of the meeting, so that these minutes may be valid. On the adjournment of each annual meeting the minutes will be kept in the JOURNAL office with the other papers of the ASSOCIATION. The secretary having at each meeting his JOURNAL stenographer with him, the work of keeping the minutes can be accurately done, at no additional cost to the ASSOCIATION from the stenographic reports kept for the JOURNAL.

The editor of the JOURNAL would then become responsible for the correctness both of the report of the meeting and of the minutes, which correctness of the latter would be duly attested by the signature of the president of this ASSOCIATION. Such an arrangement as this would in our opinion prevent any charges of omissions from, and inaccuracies of, the minutes of our meetings, a thing which has too often occurred heretofore.

With your secretary in one city and your editor in another, delays in the transmission of matter often occur, and the editor can not promptly present the proceedings of the meeting to the readers of the JOURNAL. This is evidenced by the fact that the minutes of the Denver meeting are found in the following numbers of the JOURNAL—June 25, July 9 and July 23, when the proceedings should have been published June 11-18.

This report is respectfully submitted and we bespeak for it your careful consideration.

A. GARCELON, President.
E. E. MONTGOMERY,
H. L. E. JOHNSON.
CHAS A. L. REED,
JOSEPH EASTMAN,
J. T. PRIESTLEY,
TRUMAN W. MILLER,
T. J. HAPPEL,
I. N. LOVE, Trustees.

At the conclusion of the reading of the report, Dr. Duncan Eve of Nashville moved its adoption. Seconded.

The secretary arose and asked whether he could speak to a question of privilege.

THE PRESIDENT—Yes, sir, you can.

SECRETARY W. B. ATKINSON—I do not desire in any way to oppose the adoption of this report by a unanimous vote, but I claim the right to place these matters before you in the proper light. There are statements made in the report which are not correct in regard to the conduct of this office, and for that reason I demand that these changes be made, so that I shall be reported correctly. In the first place, I have here the minutes of the meetings of the ASSOCIATION from the time it became a journal printing association. Before that I always supplied the printer with a certified copy with my name attesting the minutes as they were read and adopted by you. These are all signed, with the exception of the last two. Another thing, I have never failed to present to the stenographer, who has been our stenographer for years, full minutes of the ASSOCIATION, but not in the form of newspaper excerpts, scraps of paper, etc., as mentioned in the report. On the occasion of every meeting I have furnished him with the minutes written out either by myself or typewritten under my supervision, signed by myself, and the minutes taken with him on every occasion. If you doubt the correctness of this statement, the stenographer is here and will tell you that I am correct.

Another point I want you to think of is with reference to the meeting at Denver in regard to the minutes not being promptly printed. When Mr. Whitford and Dr. Hamilton left Denver they took with them the minutes properly certified to by me, with the exception of the report of the executive committee. I could not furnish this because it had been taken away by the secretary of that committee. I have a letter from the secretary of that committee in my pocket acknowledging that he had taken it away and saying that he could not furnish it for some little time. The result was that after I had written him twice asking for the report, he sent it to Dr. Hamilton at Chicago, and this accounts for the delay in the printing of the minutes of the Denver meeting. You have my explanation, and I ask that you have the report of the board of trustees corrected in accordance therewith.

Dr. T. J. HAPPEL, speaking for the board of trustees, said: "Mr. President and members of the ASSOCIATION I am not here on the floor of my own volition. I am the youngest member of the board of trustees. I have seen the least service on the board, and they thought it was a fine opportunity to break me in. We dislike to be put in the attitude of appearing to prosecute or persecute any one in connection with this matter. With all due deference to the secretary, your board weighed carefully every item of this report which has been presented to you. We do not say in our report that these minutes were not gotten up and put into the hands of the printer in proper form, but we do say that the report was read from scraps of paper, from stenographic reports, from newspaper clippings at our meeting. I think the facts in the case warrant the assertions made by the board. If any of you will pick up the JOURNAL containing the last day's proceedings at Denver, and occupy your time in reading them, you will find that the proceedings of that day fully verify every position taken in this report as regards the printed proceedings of the occurrences of that day. The minutes may be gotten up after the meeting adjourns, and may be signed by your secretary and presented for printing in proper form, but they do not constitute the legal minutes of your proceedings. Legal minutes of your proceedings must be written out in proper form, in a book properly prepared, and then adopted. This must be done before they are valid or are worth the paper they are written on, and they must be signed by the president of the ASSOCIATION (Applause). You, therefore, have not legal action taken on any matter so far as the proceedings of your ASSOCIATION go. I do not know but what the secretary may have these minutes somewhere, but they are not in book form. We have no valid minutes of the Denver meeting, and I take it that the same applies to reports of any other meetings. As to how these matters have come into our hands, we have not gone into this matter of our own volition. You will remember that Dr. William Bailey introduced a resolution at the Denver meeting for the appointment of a general secretary at a salary of $3000 per annum, and as this resolution involved an expenditure of money, it carried the matter into the domain of the trustees of the ASSOCIATION. Had there not been an expenditure of money involved in that resolution, it would have gone to the general business committee. Dr. Bailey's resolution (see JOURNAL, xxxi, p, 94) was referred to us and we have tried to carry it out in constitutional form, considering the resolution offered by Dr. Wills to amend the constitution in the way we have done. We do not intend to cast any reflection on the action of Dr. Atkinson, but the board of trustees does not want to be placed in a false light in this matter. We feel it is for the best interests of the AMERICAN MEDICAL ASSOCIATION that this change should be made. We feel that with your editor as secretary you have somebody to whom you are paying a salary sufficient to hold responsible for doing the work in a business-like way. If we are a business body, the work should be done in a business manner. If you want the business transacted properly, place the responsibility on somebody's shoulders, and if he does not attend to it he can be ousted from his office and some one else put in his place; hence the recommendation in our report to make the editor of the JOURNAL the secretary of this body.

Dr. BISHOP of Pennsylvania—"Inasmuch as we have heard the reply of the secretary, and the final reply of the board of trustees, I now move that further debate be closed and that we vote on the report of the committee."

THE PRESIDENT—"There is already a motion before the house to adopt the report." The president then put the question on the adoption of the report, which was carried.

OFFICERS OF THE ASSOCIATION FOR 1899-1900.

President, W. W. Keen, Philadelphia.
First vice-president, Chas. A. Wheaton, St. Paul.
Second vice president, E. D. Ferguson, Troy, N.Y.
Third vice president, J. M. Allen, Liberty, Mo.
Fourth vice-president, Wm. D. Middleton, Davenport, Iowa.
Treasurer, Henry P. Newman, Chicago.
Secretary, George H. Simmons, Chicago.
Assistant secretary, J. A. Joy, Atlantic City, N. J.
Chairman committee of arrangements, Philip Marvel, Atlantic City, N. J.
Librarian, Geo. W. Webster, Chicago.
Board of trustees, E. E. Montgomery, H. L. E. Johnson and C. A. L. Reed, re-elected.

JUDICIAL COUNCIL.

J. D. Griffith, Kansas City, Mo.
P. H. Bailhache, marine hospital service.
J. E. Cook, Cleveland, Ohio.
J. P. Lewis, Topeka, Kans.
F. H. Wiggin, New York City.
J. W. Irwin, Louisville, Ky.
Walter Wyman, Washington, D. C.

ANNUAL ORATIONS.

On Medicine—John A. Witherspoon, Nashville, Tenn.
On Surgery—W. L. Rodman, Philadelphia, Pa.
On State Medicine—Victor C. Vaughan, Ann Arbor, Mich.

SECTION OFFICERS.

SURGERY AND ANATOMY.

Chairman—H. O. Walker, Detroit, Mich.
Secretary—Ramon Guitéras, New York City.
Executive Committee.—

PHYSIOLOGY AND DIETETICS.

Chairman—Elmer Lee, New York City.
Secretary—R. Harvey Cook, Oxford, Ohio.
Executive Committee—A. P. Clarke, Cambridge, Mass.; Randall Hunt, Shreveport, La.; James Weir, Jr., Owensboro, Ky.

PRACTICE OF MEDICINE.

Chairman—Geo. Dock, Ann Arbor, Mich.
Secretary—Dr. Futcher, Baltimore, Md.
Executive Committee—

OBSTETRICS AND DISEASES OF WOMEN.

Chairman—W. E. B. Davis, Birmingham, Ala.
Secretary—F. F. Lawrence, Columbus, Ohio.
Executive Committee—

DISEASES OF CHILDREN.

Chairman—Edwin Rosenthal, Philadelphia.
Secretary—Louis Fischer, New York City.
Executive Committee—

MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

Chairman—Leon L. Solomon, Louisville, Ky.
Secretary—J. W. Wainwright, New York City.
Executive Committee—T. H. Stucky, Louisville, Ky.; John V. Shoemaker, Philadelphia; Warren B. Hill, Milwaukee, Wis.

LARYNGOLOGY AND OTOLOGY.

Chairman—Christian R. Holmes, Cincinnati.
Secretary—J. A. Stucky, Lexington, Ky.
Executive Committee—

NEUROLOGY AND MEDICAL JURISPRUDENCE.

Chairman—Hugh T. Patrick, Chicago.
Secretary—F. S. Pearce, Philadelphia.
Executive Committee—

OPHTHALMOLOGY.

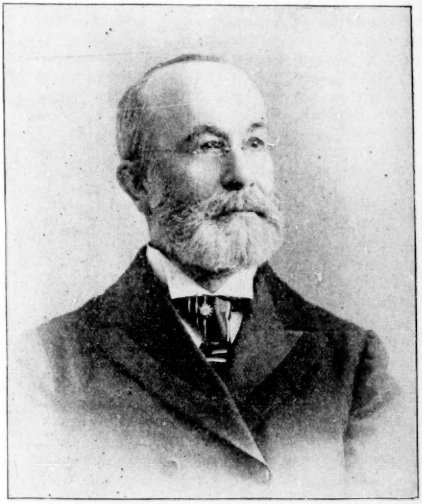
Chairman—H. V. Würdemann, Milwaukee, Wis.
Secretary—C. F. Clark, Columbus, Ohio.
Executive Committee—

(To be continued.)

PRESIDENT-ELECT W. W. KEEN, M.D.

WILLIAM W. KEEN, M. D., of Philadelphia, who has just been elected president of the AMERICAN MEDICAL ASSOCIATION, was graduated at Brown in 1859, and at Jefferson Medical College in 1862, and received his degree of LL.D. from Brown University in 1892. He was lecturer on pathologic anatomy in Jefferson Medical College for nine years, following 1866, and conducted the Philadelphia School of Anatomy Since 1884 he has been professor of surgery in the Woman's Medical College of Philadelphia, and also professor of artistic anatomy in the Pennsylvania Academy of Fine Arts.

From May, 1862, until July, 1864, he served as acting assistant-surgeon in the army, and was in charge of the Ascension, and the Eighth Street General Hospital at Washington, D. C., and also of the U. S. Army Hospital for nervous diseases at Turner's lane, Philadelphia. He is professor of principles of surgery in Jefferson Medical College; a member of the College of Physicians of Philadelphia; of the Philadelphia Academy of Natural Sciences and the Philadelphia Pathological Society, having served as secretary of the latter society from 1869 to 1872.



W. W. KEEN, PRESIDENT-ELECT.

In his work in surgery of the nervous system he originated several operations, among them one for tapping and draining the lateral cerebral ventricles, first performed by him in 1888. In 1890 he published his experiences relating to the determination of the rupture of the bladder by the injection of filtered air, and in 1891 his process of exsecting the nerves supplying the posterior rotator muscles of the head for the relief of spasmodic wryneck. In 1894 he was elected *member correspondant étranger* of the Société de Chirurgie of Paris.

Dr. Keen, during the past year, has been president of the American Surgical Association and last year published a book on "Surgical Complications and Sequels of Typhoid Fever," his latest work, which has received the highest commendations here and abroad.

Correspondence.

Medical Sessions at Columbus.

[Staff Correspondence.]

COLUMBUS, OHIO, June 6, 1899.

To the Editor:—The American Academy of Medicine met in this city yesterday with forty-six members present. Advertising was the principal topic discussed and officers were elected.

(See p. 1332.)

The American Medical Editors' Association also met in this city on the same date and adopted a revised constitution and by-laws. Dr. J. D. Emmett of New York City read a paper on "The Ends and Aims of Medical Journalism," which elicited a lively discussion. [To be published in the JOURNAL.—ED.] At the annual banquet in the evening, Dr. Thos. H. Hawkins of Denver presided and Dr. I. N. Love of St. Louis served as toast-master. This society also elected officers as follows: president, I. N. Love, St. Louis; vice president, J. E. Brown, Columbus; secretary, Dillon Brown, New York City; treasurer, Alexander Stone, St. Paul.

Another organization—the National Confederation of Medical Examining and Licensing Boards—also held its annual meeting here on Monday, and further report will be sent next week for publication in your "Societies." The new officers for the confederation are: president, J. M. McCormack, Bowling Green, Ky.; first vice president, N. R. Coleman, Columbus, Ohio; second vice president, B. F. Crummer, Omaha, Neb.; secretary and treasurer, A. Walter Suiter, Herkimer, N.Y.

Dr. Quine on Homeopathy.

SEATTLE, WASH., May 15, 1899.

To the Editor:—Relative to Dr. Quine's address, in exposition of the tenets of homeopathy (see JOURNAL, April 29 and May 6), I wish to say that my perusal of it afforded me the greatest pleasure, as well as imparting much information. It was the opportunity of a lifetime—"to beard the lion in his own den." Those homeopaths scarcely realized what the Doctor had in store for them. It is so easy to be deceived and even to deceive oneself when only one side of a proposition is presented or thought upon.

Many of those homeopathic students went away from that hall wiser then when they came. If homeopaths everywhere could read that address, it would do more toward the collapse of that "pathy" than anything that has happened since the crazy Hahnemann promulgated his dogmas of "similia similibus, curantur," "potentization," and "infinitesimals."

Professor Palmer's work, "Homeopathy, What Is It?" is a grand thing in its way, but it is too large for extensive circulation and reading. But when the whole fabric of homeopathy can be scattered to the winds by arguments confined to a few pages of paper, it furnishes a document for general distribution and reading. That address should be reprinted in thousands. It will become classic. Homeopathic journals will scarcely publish it. A. C. SIMONTON, M.D.

51 Hinckley Block.

Miscellany.

Association Programs.—Physicians desiring a copy of the official program of the Columbus meeting can obtain same by addressing the JOURNAL and inclosing postage—3 cents.

Journals Wanted.—While we have had a liberal response to our recent request for certain copies of the JOURNAL, to complete a file for a State library, we still need, and will pay 25 cents each for, copies of the following JOURNALS: Vol. iii, No. 4; Vol. v, No. 17; Vol. xxvii, No. 14.

Treatment of Lupus Erythematosus.—In a paper read before the Harveian Society of London, Whitfield (*Brit. Med. Jour.*, April 29, p. 1029) divided the treatment of lupus erythematosus into palliative and active. The first included the use of soothing and protective lotions, powders and ointments; the second the use of such drugs as pyrogallic acid and chrysarobin and their oxidized compounds, mercurial ointments and plasters, as well as operative measures, such as scarification and the application of the fine galvanocautery.

Nocturnal Asthma.—Pawinski (*Revue de Méd.*, March 10), reports five interesting cases of nocturnal asthma associated with unsuspected retention of urine. Arteriosclerosis, pseudoangina and cardiac weakness were present in all the cases. The nocturnal attacks of dyspnea could be promptly relieved by catheterization. Frequent nocturnal micturition was present, but it was shown that this simply represented the overflow from a full bladder which did not empty itself. The retained urine, either by reflex action or intoxication, caused the respiratory and circulatory disturbance. In no case was cystitis present. Needless to say the cases were all in the aged. No doubt attention directed to this point will discover here the cause of not a few almost inexplicable cases of asthma in old persons.

Washington.

HEALTH OF THE DISTRICT.—The report of the health officer for the week ended May 27 showed the total number of deaths to have been 89, 58 white and 31 colored. There were 6 deaths from cerebrospinal meningitis, 2 from diphtheria and 1 from scarlet fever. At the close of the week there were 6 cases of smallpox, 27 of diphtheria and 53 of scarlet fever under treatment.

MEDICAL DEPARTMENT OF COLUMBIAN UNIVERSITY.—At the commencement exercises of the Columbian Medical School, diplomas were awarded to 31 graduates. The general examination prize was awarded to L. H. Reichelderfer; the faculty prize to R. B. Grubz; the H. L. E. Johnson prize in clinic gynecology to Sothern Key; the Sterlin Ruffin prize in medical jurisprudence to L. H. Reichelderfer; the C. W. Richardson prize in laryngology to W. K. Ward; the W. L. Tompkins prize in neurology to P. M. Cox; the G. N. Acker prize in pediatrics to H. A. May; the H. C. Yarrow prize in dermatology to Randolph Keiner.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL.—Dr. J. L. Adams has been appointed resident physician. Drs. W. E. Whitson and W. C. Williams have been appointed assistant resident physicians. The retiring physician, Dr. W. H. Mohart, goes abroad for a post-graduate course in Europe.

Philadelphia.

MORTALITY STATISTICS.—The number of deaths reported in this city for the week just closed was 426, an increase of 42 over last week, and an increase of 20 over the corresponding period of last year. Of the total number 115 occurred in children under the age of 5 years. The following were the principal causes of death: Apoplexy, 16; nephritis, 36; cancer, 12; cerebrospinal meningitis, 2; tuberculosis, 64; membranous croup, 2; diabetes 2; diphtheria, 16; heart disease, 38; scarlet fever, 3; peritonitis, 5; septicemia, 2; whooping-cough, 3.

NEW SITE FOR HOSPITAL.—A meeting of property owners adjacent to the Municipal Hospital recently held a mass meeting relative to that institution, which they think is detrimental to the value of property. It is held that the neighborhood is rapidly building up and because of the number of cases of communicable diseases treated there and of the overcrowded condition existing, a new site should be chosen, now that the city has the money.

ALMSHOUSE.—Since $200,000 has become available through the loan bill, the question of removal of the almshouse from the Philadelphia Hospital proper is still being agitated. The department for the insane will doubtless be the first to be removed, as it is the most overcrowded.

JEWISH HOSPITAL REPORT.—The thirty-fourth annual meeting of the Jewish Hospital Association was recently held in this city, at which time the president submitted his annual report as follows: The number of patients treated in the hospital was 825, and in the dispensary 12,678, an increase of 89 patients in the hospital and 924 in the dispensary. At no time during the year was there a vacant bed, cots having to be made use of frequently. The net receipts from all sources amounted to $37,096.05 and the expenditures to $43,058.78, leaving a deficit of $5962.73.